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COSMIC BEHAVIORISM

MAN is a comparatively late arrival on the cosmic scene. On this point most men are today agreed. It is not a new view, having been clearly stated in *Genesis*[1] and by *Empedocles*.[2] But we have new evidence for it and understand it in a sense our predecessors did not. Man arrives late, not *via* a divine decision or the blind, chance movement of things, but through the intelligible and natural course of history.

Aristotle and Leibniz seem to be the most conspicuous members of the opposition. According to Aristotle, mankind is a fixed and unalterable species, which always was and always will be part of nature. For Leibniz, not only mankind, but every individual

[1] The first chapter of *Genesis* is usually interpreted as unequivocally stating that God created the whole universe with all its occupants on six successive days, the last being devoted to the creation of man. An interpretation, much more compatible with the findings of geology and biology, is suggested by Thomas Aquinas. In his *Summa Theologica* (I, 71, 1; 73, 1 ad 3), Thomas Aquinas, following Augustine, affirms that God, instead of creating actual plants and trees, fishes and birds, created only potential ones, i.e., only "their origins or causes".

It was not, of course, a concern for the facts of biology or geology which prompted this interpretation, but a desire to affirm that man alone, of all living things, was produced directly by God. As a consequence, both Augustine and Thomas Aquinas refused to maintain that man, like other living things, was created only in potency, in the shape of causes which could actually produce him in the course of natural history. Were one to extend their theory of the creation of things in their causes so as to include man, as well as other living things, there would be no conflict, at this point, between the bible and modern science. The latter does not in any way deny, any more than it affirms, that there was once an act of creation. That is a question outside its interests, beyond the reach of its method and indifferent to its progress. (It can, however, be shown, I think, that creation is impossible. See e.g., my "God and the World", *Science, Philosophy and Religion: A Symposium*, pp. 405-6, where the act of creation is shown to be inconsistent with the nature of God.)

Whether or not, then, one takes the bible as his guide, one is able to affirm that man came into existence some time after other things.

[2] See fragments 244, 247, 257, 262, *Selections from Early Greek Philosophy*, M. C. Nahm.

man, is a permanent part of the furniture of the universe. Leibniz, however, offered his as a metaphysical doctrine; he did not maintain that man was eternally a part of nature, but only that he was a fixed component of that realm of being which permanently lay behind nature. His view can thus be readily combined with the view that man is a late comer in the natural world.[3] It is Aristotle and his disciples, and apparently they alone, who deny that there is a date in the history of the natural world when man had not yet appeared.

Almost all writers are agreed, too, on the fact that there were no human minds before there were human bodies. The dissenting minority, however, is larger than it was on the first proposition. It includes Democritus,[4] Plato,[5] Plotinus[6] and their followers. All these hold that the mind is an eternal substance, or part of one, in no way dependent for its existence on the presence or action of material things. To make their point, however, they are forced to distinguish between the mind as a bearer of pure ideas and the mind as the domain of images, feelings, and sensed qualities. The latter so obviously depend for their existence on the presence of a human body immersed in nature, that these writers are forced to hold that the mind at least does not and cannot exist before there is a body. The minority on this point agrees with the majority; the opposition between them concerns not the mind in all its aspects, but only in some.

The doctrine that there was a world before there were men, and that there are no human minds before there are human bodies, may be taken as one of the essential parts of a naturalistic view of man. It is a view which everyone, with the exception of the Aristoteleans, accepts to some degree. Were it not for that exception one would be almost inclined to say that naturalism is

[3] Some have been tempted to conclude from the writings of such idealists as Berkeley, Kant and Hegel that all of nature exists only so far and so long as men think of it, so that it could not precede their arrival. It is true that these men attempt to show that the natural world depends for its being on the exercise of thought, but the thought on which it depends is, for them, not the thought of a limited finite being with a finite mind, but of a divine, transcendent or absolute spirit with an eternal and unlimited mind. For the idealists, as well as for their opponents, man arrives after the natural world has been going for some time.

[4] See Aristotle's *De Anima* 405a 8-12; *Physics* 203a 33.

[5] *Phaedo* 79d, 107f.

[6] *Enneadae*, IV, iii, 8.

an inevitable consequence of the fact that man exists at all.

Contemporary naturalism specializes this common doctrine in a number of ways. Three are of basic importance, differentiating it from older versions and sharpening the opposition between the different approaches men have made to the question of the origin, content and nature of their minds.

1. *Mind arises neither inevitably nor by chance. It is the product of a natural process which is shot through with contingency and accident.*

The acceptance of this proposition forces a clean break with Hegel and his school, including those who, like the Marxists, turn the original idealism into a materialism. The Hegelians subscribe to the theory that everything in nature is the necessary product of a relentless historic movement which nothing can stay or redirect. But that movement is a movement *for* the things in nature, not *of* them. It is a cosmic juggernaut which alone determines what does and can occur. For Hegelians, of the right and of the left, the things in nature are impotent puppets, pulled by invisible strings. No one of these things really develops or comes to be; rather, all are precipitated out of an infinite maw which moves according to a logic of its own, unaffected by the efforts or inclinations of finite beings. Our first proposition, on the contrary, affirms that the explanation of the origin of mind is to be found in and not outside nature, and as being due to the activities of specific things, exercising powers of their own.

The acceptance of this proposition forces one also to give up that mechanistic and deterministic view which was so dominant in the last century. Hume long ago showed the hopelessness of the doctrine that everything in the universe is an inescapable consequence of some previous state of affairs. He thought that this required one to conclude that there was no causation. He ignored another alternative: there is causation but it is not the necessary production of the future by the past.

One who denies causation is bound to hold that nothing exists but a sequence of independent and irrelevant occurrences, each one a miracle, impotent and inexplicable. For him no rational prediction or explanation is possible, and he is forced to cancel

out the evidence of daily experience and the intent of science and philosophy.

The theory defeats itself. The more firmly one holds to it, the more surely one must affirm that its denial is equally reasonable. A theory which asserts that the past and future are completely independent must allow that the future may be entirely unlike the past. Accordingly, after a time when events follow in meaningless procession, it must allow that there can come a time when they are related causally and rationally. The more we disconnect the events of the future from the past, the more we allow that the past and the future may be closely connected in a new future, stretching endlessly before us.

Hume thought his principles led him to assert that there was no causation in his day; if that conclusion followed, that would allow causation today and the failure of Hume's analysis. But Hume's analysis still holds; it is his conclusion which is in error. There was causation in his day just as surely as there is in ours, but it is not and was not a process in which the past necessarily produced the future. Hume showed the unintelligibility of that idea of causation for all time. It is by accepting his account as valid that we can, in consonance with the evidence of science and experience, affirm: the past and the future are causally connected, but the past does not necessitate the future.

This theory of causation can be interpreted in one of three ways. One can suppose that causation is somewhat of a hit-or-miss affair, a propulsion which slips an occasional cog in the course of its occurrence, producing unpredictable novelties as well as inevitable consequences. This is the theory of indeterminancy, of which Heisenberg's is but a special instance. It involves a rejection of classical teleological views as well as of classical mechanistic ones. To accept it is to free oneself from the dogma that there is some distant, allpowerful fate which pulls all things irresistibly forward, and from the dogma that causation is nothing but another word for logical deduction.

It is possible, however, to interpret this theory of causation in such a way as to preserve the principle of determinancy. But then it will be necessary to give up mechanism and accept in its place the classical theory of teleology. According to this interpretation,

causation is the exhibition of an irresistible power. But it is a power which the future exerts on the present rather than one which the present exerts on the future. This view, like the mechanistic which it opposes, reduces the Aristotelian four causes—the efficient, material, formal and final—to one. Both agree that the material and formal "causes" are really nothing more than conditions, factors which limit and determine the causal process. They differ solely in their decision which of the remaining "causes" is a true cause. The mechanists accept the efficient; the teleologists the final. Classical teleology is thus classical mechanism in reverse. It rightly maintains with Hume and against the mechanists that nothing in the past can be a cause of something in the future. But in its turn it unfortunately supposes that the cause of things is something not yet existent, and is perhaps even beyond anyone's power to observe, limit, or control. Its value is largely that of a purgative. It eliminates mechanism, but puts nothing empirically ascertainable in its place.

We obtain a better interpretation if we combine the above rejection of mechanism with the principle of indeterminancy suggested before. We can then affirm with Hume that causation is not necessitation, with the teleologists that the past is not a cause but a condition, and with the mechanists that observable objects cause changes in others in definite, intelligible and controllable ways. To develop the point would take us somewhat far afield.[7] Perhaps it will suffice to remark that causation is a contingent process in the present, but that the objects responsible for it stand to one another as objects needing and needed, and thus in a sense as past and future to one another. By modifying the traditional theories of causation in some such way it becomes possible to affirm, without equivocation or inconsistency, that the mind is a contingent result, in no way necessitated by anything past or future.

Mind does not originate solely "by the good favor of chance",[8] any more than it originates through the act of an irresistible power. We can isolate the conditions without which the mind could not arise, and with which the mind could be reasonably expected to

[7] See, however, *Reality*, 210-11; 258.
[8] Empedocles, fragment 195, Nahm, *op. cit.*

appear. These conditions and the process they make possible are sufficient to give rise to mind, but the conditions are themselves neither necessary nor permanent, and the process itself has unpredictable turns and surprising outcomes.

2. *The operations of the mind make a difference to other activities in which a man might engage.*

The mind has natural roots and natural fruits. There are professed materialists and naturalists, however, who think that the mind has no role to play in nature. Huxley, for example, was a good Darwinian, and Santayana has spoken of himself as the only materialist now living. Yet both of them view mind as little more than a domicile of idle dreams. They affirm that the mind has a natural origin; they deny that it has a natural goal. They are naturalists on the way up, not naturalists when they arrive.

Theirs is the converse of the neoplatonic view which took nature to be a product of mind and refused to allow that that product had any effect on the mind which mysteriously generated it. For the latter, matter is impotent, a shadow thrown across the wastes of emptiness; the former merely reverses the roles which mind and matter play in this account. The defects characteristic of the one are therefore to be expected in the other, though in opposite corners. Thus, as for the latter there are no laws or habits which matter embodies and no power which it can exert, so for the former there are no laws or habits to which the mind submits and no difference which it can make. Motion is a mystery for the one, logic a mystery for the other. For both there is no way of affirming the evident truth that the state of the body makes a difference to what one thinks and that the nature of one's thought makes a difference to what one does.

Mind has a role to play in nature. But it would be driving this point too far to affirm that the mind is nothing more than an instrument for the pursuit or use of things in nature. The statement that "knowledge is a mode of practical action"[9] formulates a program; it does not describe a fact. It asks us to make our

[9] John Dewey, *The Quest for Certainty*, 104.

knowledge significant in practice. It would express a falsehood if it pretended to assert that all knowledge was already significant. Certainly, the truths of symbolic logic are not plans for changing the course of the world. It would show litle submission to the facts to deny that most of the truths learnt at second hand have an inconsequential role to play in the lives of those who hear them. The mind does not rule the body with an iron hand, nor does it constantly concern itself with practical problems. It is but one of the factors in an organic pattern of activities in which it is sometimes dominant, sometimes coordinate, and sometimes recessive. The truths of which it is aware sometimes, as in the case of the fanatic, disorganize and confound; sometimes, as in the case of the indolent, they serve only to adorn the passing mood. It is a professor's delusion that knowledge is power all ready to work for the good.

Nor it it true that the mind concerns itself exclusively with specific, natural phenomena.[10] It reaches at times beyond the here and now, and sometimes even beyond the particular details of nature. If it did not, it would be impossible to assert the doctrine of naturalism, and affirm, as naturalists explicitly or implicitly do, some such proposition as: "Natural things and events are in a constant process of change". That proposition does not restrict itself to what is happening here and now, but applies to all of nature. It necessarily goes far beyond any evidence we directly have or can obtain. No experience is wide or long enough to include all the facts it embraces. So long as such assertions are significant—and they must be significant if either the affirmation or denial of naturalism makes sense—the mind cannot be defined as an instrument for the solution of practical problems or as restricted in its interests to some limited set of facts.

The operations of the mind make a difference to the other activities in which a man might engage. The difference they make may be to help the organism deal with some issue which the immediate environment poses. But it may also serve to inhibit action, destroy an attained equilibrium, or adjust the organism to some far off or non-existent event.

[10] D. W. Prall, this *Review*, March, 1938, p. 152.

3. *The content, origin, and functions of the mind can be adequately described and accounted for in behavioral terms alone.*

This is the most important of the three propositions which define the new naturalism. It affirms that there is a significant sense in which the entire history, activity and content of the mind are public and observable. It does not compel one to affirm that the mind is a body, that thoughts are words, or that psychology is physiology. It does not deny that there are inferences, images, and ideas, or that these are characteristic of mind alone. Only a halfhearted naturalism, a naturalism unsure of itself, would deny the existence of facts for which it was unable to account in traditional ways. A living naturalism alters its inherited concepts and methods in the face of a demonstration that they are intrinsically unable to account for the facts.

To carry through the program of a living naturalism, we must criticize and modify our traditional approaches until they become broad and flexible enough to deal with, at least in principle, every kind of fact the mind makes possible. To do this, we cannot avoid using the mind. Theories to the effect that the mind has such and such a nature are not mere words, nor expressions of a tendenecy to solve a personal or social problem. They make a claim to truth, and depend on the fact that there are minds which entertain ideas, judge and infer—which is what no body can do. Though any truth about the mind has a behavioral expression, the mind remains a mind and not a form of behavior.[11] The fact that a portrait catches the essence of a man does not mean that the man thereby vanishes.

[11] The point, I think, is fairly simple. Yet in another form it has apparently baffled some of the greatest living logicians, and in their own field. It is part of the creed of modern logicians that every assertion has a purely extensional expression, *i.e.*, it can be rewritten in such a way that the value of the whole is a function of the value of its externally related parts. They claim to be able to rewrite such a proposition as "A believes p", which can be true or false whether or not p is true or false, in such a way that the whole will depend for its truth on the truth of its components. They conclude from this that intensional expressions and an intensional logic are in no sense necessary. What they overlook is the fact that the translation was accomplished within an intensive frame. What else warrants the identification of the intensional proposition with its proposed translation? The assertion "two propositions have the same meaning" is intensional. And what reason is there to suppose that once the translation has been made, the expression which was translated disappears?

I suppose there is no one today who would maintain with Watson that there are no minds, and that thinking is nothing but subvocal talking. If there is, he must be singularly uninterested in or impervious to criticism.[12] No view can be termed respectable which denies that there are felt pains and pleasures, that men can think without speaking or speak without thinking, or which, by selfconfession, cannot claim to be either true or false. If the mind is the way the speech-organs function, then the theory that this is so, is but another movement of the speech-organs, no better or worse than any others and certainly no more "true".

The basic objection to this kind of behaviorism—an objection which holds no matter what one or number of bodily functions be taken to exhaust the meaning of mental acts—is not that it is too behavioristic, but that it is not behavioristic enough. The individual does not provide sufficient data for an adequate account of the origin, content, or functioning, of the mind. Our origins are outside us, our content refers beyond itself, and our activities take place in a cosmos and in the face of the acts of others. We must look outside the body as well as within if we are to provide a behavioristic account of truth, meaning, intent, prediction, expectation, perception, and speculation.

The material in terms of which the mind is to be behavioristically understood includes the organism and things beyond. How far afield must we go for this material? What kind of things provide it? Can we, with Dewey and Mead, stop with the environment; should we, with them, include only those objects which are vitally important for the life of the organism? If we do, we shall find, I think, that our behaviorism cannot be carried out. We shall then be driven to deny, as Watson did, the existence of facts which our theory cannot abide, or we shall be forced to give up our behaviorism before we have been able to provide even a suggestion of a complete behavioristic account.

Signs of this double failure are evident in the writings of Dewey. By confining himself to a narrow environment and to things which were of vital importance to the organism, he made it impossible

[12] For the most recent, and perhaps most exhaustive and searching criticism, see Brand Blanshard: *The Nature of Thought,* vol. I, bk. ii, chapter ix.

for himself to deal with eternal and universal truths. Defining truth as a kind of success in practical affairs,[13] he could find no room for the truths of logic, mathematics, physics, and philosophy, so far as these had cosmic meaning and no practical value. On the other hand, after having put great stress on a behavioristic account of the origin and functioning of the mind, he ended with theories of enjoyment and feeling which defined these as so private, unaccessible, and unintelligible, as to preclude entirely the possibility of an exploration of their nature. There are, to be sure, "consummatory goods" which are privately enjoyed. But, if one makes a claim to give a behavioristic account of the mind in all its phases, one cannot rest with an explanation how these originate and to what occurrences they might lead. He must go on and express what they *are* in behavioral terms alone. And if he cannot do this with the material available he must find other material or give up his behaviorism.

A behaviorism which takes itself seriously cannot content itself with an account of only some aspects of mind. It confesses its untenability if it is forced to distort the meaning of the other aspects or is driven to define them as mysteries which no one can probe. These aspects will, however, remain beyond the reach of any behavioristic account so long as one confines the scope of inquiry to the individual and his environment, or to what is practically significant. To understand them we must look perhaps to the whole of nature, and certainly to parts of it which lie outside the range of our immediate perceptions or dominant interests. A logical truth, for example, expresses the structure of any portion of reality. To treat it behavioristically is to express it as an organic sensitivity to the structure of anything whatsoever. A feeling reflects the disharmony which separates our bodies from others. To treat it behavioristically is to indicate how the organism fails to follow the rhythm of others.

The more inward and private the phenomena the wider the range of the data that must be brought into account. Sheer privacy has its public expression in the rest of the universe as systematized and unified. To achieve an adequate grasp of it, we must go far be-

[13] See Dewey, *Essays in Experimental Logic* 238.

yond the reach of our empirical instruments. But just as our inability to know the weight of the universe or the number of electrons in existence does not affect the validity or universality of astronomy or physics, so the inability to provide a complete and certifiable account of any particular private nature does not exhibit a failure of the behavioristic approach. Since the explanation of the most private fact differs from those which pertain to more public ones only in the range of the data needed, the one no less than the other can rightly be claimed an object of a behavioristic method.

If we seek definite, specific and experimentally determinable answers to our questions we must confine the scope of inquiry to those phases of the mind which require the use of but a limited set of data. From that beginning, experimentally controlled and constantly checked, we can pursue our inquiry further and further afield and thereby come closer and closer to an adequate account of the nature of the deeper recesses of the mind. How far we can go in this direction no one can antecedently determine. But, since we cannot empirically get all the data necessary for an explanation of the most private possible fact, we know that by experimental means alone we cannot answer all our questions. This, instead of being an occasion for despair, is really an occasion for celebration, for it points up the value of intuition and speculation. These take as their starting point the very facts which are beyond experimental reach, and end at the point where behaviorism is in firm control. Intuition and behaviorism, speculation and experiment, are thus supplementary, and between them should be able to give us precise information regarding any fact. In theory one can extend either to embrace all that which is dealt with by the other. But what is most submissive material for the one is most recalcitrant for the other, pushing it to the extreme limit of its capacities. Each should be stopped at the point where its method becomes less effective than the other, and at some intermediate point it should prove profitable and desirable to use both of them together. Thus to know what an emotion is it is desirable to view it behavioristically and also to catch its tempo and flavor through acts of sympathy.

An adequate behaviorism is a cosmic behaviorism, just as an

adequate physics is a cosmic physics, an adequate chemistry is cosmic chemistry, and an adequate ethics is a cosmic ethics.[14] But just as a cosmic physics does not stand in the way of an equally cosmic religion, a cosmic chemistry does not oppose an equally cosmic history, and a cosmic ethics does not conflict with an equal cosmic sociology, so a cosmic behaviorism is compatible with a cosmic intuitivism. Each provides data for the other and helps to criticize and direct its inquiries.

Our studies of mind have too long been precopernican in spirit, limiting themselves to a study of individual selves, organisms, or local situations. We must face up to the fact that man and his mind are part of nature and there is no portion of nature which can be arbitrarily excluded as impertinent to him.

A naturalist is one who holds that nature is selfsufficient, requiring neither support nor sustenance from without. He recognizes no object or fact as beyond his capacity to understand through the extension of methods which have proved effective in the understanding of other things. Inclined towards a behavioristic account, by virtue of the observability, accessibility and manipulability of the material of which it makes use, he attempts to restate every fact so that every single aspect of it can be dealt with in a public and verifiable way. Since it is knowledge that he seeks, and not the privilege of holding tenaciously to some one method, no matter how cumbersome or ineffective, he does not hesitate to abandon the behavioristic approach, without giving up its claim to fall back on other methods when these promise to be more fruitful. These, too, he uses in such a way as to make manifest the fact that mind is a natural phenomenon with a natural history, taking care to check what he thus discovers with the results other procedures have made possible. And when, as in the case of the determination of the nature of the feelings and emotions, he finds it desirable to use both methods at once, he allows no traditional shibboleths to stand in his way.

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[14] See "Towards a Cosmological Ethics", *Journal of Philosophy*, XXXV (1938) 24.

PLOTINUS' THEORY OF SENSATION

> Und wie haben wir uns die Erscheinungen dieser Einheit, die sinnliche Empfindung, die Begierde u. s. f. zu erklären? Diese Fragen waren für Plotin nicht ganz leicht zu beantworten, denn durch seinen einseitigen Spiritualismus hat er wirklich die Mittel zu ihrer genügenden Lösung abgeschnitten.[1]

ZELLER has expressed the problem well. The grandiose structure of Platonic spiritualism requires a plausible theory of sensation. Unless the ideal world and the sensible world can be united, Aristotle's criticism that the Ideas are a useless duplication of objects will be justified. Whether or not Plotinus by a onesided spiritualism cut himself off from a real solution, whether or not his whole philosophy is, as Paul Elmer More says, "a meaningless answer to an impossible question raised by a gratuitous hypothesis", it cannot be asserted that Plotinus was blind to the problem. In every Ennead except the second the primary subjects of the tractates force his consideration of sensation and of the relation of the sensible world to the world above. As he was not blind to these difficulties, neither was he so unsuccessful of solution as to write in vain—if to write in vain means to lack influence. Not only did his pagan followers continue the Platonic tradition till the end of antiquity, but in his own city of Rome St. Augustine utilized the considerable amount of what looked promising to him and transmitted to a new era some of the ancient wisdom.

Because the theory of sensation was a part of Augustine's borrowings, and because of its strategic importance to the justification of spiritualism, one would expect that historians of philosophy had by this time produced many and prominent dissertations on the subject. Such, however, is not the case. Granted that there is no good reason to disparage Dean Inge's monumental work on *The Philosophy of Plotinus*, it is a mere matter of fact that sensation proper is disposed of in four pages, plus another page for pleasure and pain. Bréhier's one-volume work of the same title, while it has a good paragraph on memory, treats sensation only incidentally.

This neglect—of course Plotinus can furnish Inge and Bréhier with an unmanageable amount of material on other subjects—is

[1] Zeller, *Die Philosophie der Griechen*, III 2, 3te Aufl., S. 580.

not to be accounted for by the meagreness of reference in Plotinus. The embarrassment comes in coordinating the wealth of reflection. A survey of this wealth indicates that such a coordination is most naturally attempted under the four following headings: (1) The Objects of Sensation, (2) The Process of Sensation, (3) The Body and the Soul, and (4) Utility and Knowledge. At many points digressions on more general Neoplatonic principles might be expected. The theory of sensation has its bearings on aesthetics, ethics, and the mystic vision of the One. But to commence to fill in this sort of explanatory background removes the possibility of any proximate conclusion. The attempt has been made, therefore, to restrict the discussion to positive psychology and the barest minimum of epistemology.

I. THE OBJECTS OF SENSATION

Plotinus, in his reaction against Stoic materialism, produced a system that may conveniently be called spiritualistic. This term, however, when loosely used, can give rise to erroneous prejudgments as to the nature of the objects of sensation. For example, Charles Boyer seems to suggest that the sensible object is a creation of the individual human mind.[2] Or, if this reduces to an un-Platonic solipsism, some one might possibly be tempted to look for Berkeley's expedient of having God produce the object in the mind of the individual. Or, perhaps, in the historical situation, Plotinus under Aristotelian influence may have developed a view that sensation is a non-materialistic impression of some *Ding an sich*.

It was not only the Epicureans and the Stoics who explained sensation as the reception of impressions; Aristotle did so too. They differed, of course, in that the later two schools used the word *impression* in a literal or at least a physical sense, whereas Aristotle's usage was metaphorical. Since Plotinus frequently profited by Aristotle's contributions to philosophy, it is natural to look for Aristotelian influence on this point also.

Attractive though this suggestion may be, it must be judged

[2] *L'idée de vérité dans la philosophie de Saint Augustin* 171: "Pour Plotin l'âme sent parcequ'elle se saisit créant l'objet sensible."

incorrect. In his tractate *On Sensation and Memory*[3] Plotinus holds that the metaphorical impression of Aristotle and the materialistic impressions of the other schools are alike refuted by the same considerations. The concluding phrase of this tractate, by noting that the difficulties in explaining sensation as a result of impressions are met neither by those who consider the soul a body nor by those who make it incorporeal, indicates that Plotinus was not limiting his criticism to materialists. In addition to this concluding phrase, there are through the tractate several references to Aristotle's *De Memoria,* and this is sufficient to show that he had Aristotle also in mind.

The first argument of the tractate to prove that sensation is not an impression on the soul is that we see an object where it is, that is, at a distance from us, and not in the soul as an impression would be.

Zeller emphasizes the point that there is no impression in the soul, but only in order to make the sensible object an impression in the body, perhaps a physiological change in the retina. Some texts, as might be expected, do not seem at first sight to rule out the notion of a bodily impression. For example, when in two passages[4] Plotinus asserts that sensation knows only external objects, he adds that even if we sense a pain inside the body, it is an object external to the soul. But the implication of the passage is not so much that sensible objects are within the body in the form of perceptions or physiological changes, but rather that the large number of sensible objects, to which pain forms an exception, are external not only to the soul but to the body as well.

Plotinus also says that the soul looks outward, and that there would be no need of looking outward if the soul contained in itself the form of the object. Superficially this would not rule out the notion of a bodily impression. The mention of distance, however, is more easily understood as incompatible with the identification of the sensible object and an impression on the organ. For the distance referred to is neither a metaphorical distance from an illocal soul, nor a literal distance from a materialistic soul, but a distance from the sense-organ. An object in contact with the pupil of the eye cannot be seen. From the necessity of distance between the eye

[3] IV vi. [4] V iii 1, 20; V iii 2, 3.

and the object Plotinus concludes that there is an even greater necessity to deny that the soul sees an impression stamped on itself. If the soul were stamped as with a seal, it could not see the stamp, for the seeing soul and the seen object must be two distinct things. If *per impossibile* the soul could see a form contained in itself, it would be unable to assign a distance to the object. And further, how could the soul say how large the sky is, or even say that the sky is large, when it cannot receive an impression of such a size.[5]

If sensation were like an impression on wax, then, to mention another consideration, all sense-impressions, since they would be in the same soul, would presumably be materially similar, and there would be no possibility of distinguishing an auditory from a visual impression.

Again, if memory were the preservation of sense-impressions, as it would have to be on such a view, one could not first forget and then remember; the impression would have to remain in the soul, or, if it disappeared, another sensation would be required to impress the soul anew.

But the chief reason for rejecting the theory that what we perceive is a perception or impression is that in such a case we could not perceive the things themselves; shadows are all that we should grasp. This seems to be the chief reason because, by analogy with the higher functions of mind,[6] it is essential to the dogmatism and realism that Plotinus is offering as a substitute for the previously popular skepticism.

Despite the fact that Plotinus so clearly rejected even the Aristotelian form of an impression-theory, Zeller writes: "Nicht die sinnlichen Dinge selbst sind es, die von der Seele wahrgenommen werden, sondern nur die Eindrücke, welche die Dinge auf ihre Sinnlichkeit hervorgebracht haben."[7] Zeller refers to the following lines for support. "The soul's power of sensation does not grasp sensible objects, but rather the impressions that arise in the living being through sensation; for these impressions are already intelligible objects [νοητά]."[8] To this passage Zeller might have added

[5] This consideration is expanded in IV v 3, 26ff.
[6] V iii 5, 17-28 and context.
[7] *Op. cit.* III 2, 3te Aufl., S. 582.
[8] I i 7, 9-12.

this: "Even granting that what sensation grasps is in the sensible object, that which is known by sensation is an image of the thing, and sensation does not grasp the thing itself, for this remains outside."[9] Since, however, this may be an *ad hominem* remark addressed to the Epicureans, it will be of no weight if the passage from the first Ennead can be explained.

The seeming discrepancy arises because of the ease with which Plotinus adjusts his perspective. The passage in question does not describe literal sensation at all. Just as, in the general view of the universe, the stones and trees of this ordinary world are images of realities in the divine mind, so also literal sensation is an image or reflection of a higher mental activity. Although in strictness this higher activity should be called intellection, or at least discursion, still it is permissible to speak of it as perception or even as sensation. It is in light of this principle that the quotation Zeller makes from the first Ennead must be understood.

The relation of the soul to the body, which underlies that passage, is somewhat complicated. Plotinus at the beginning of the tractate had asked the question: Is the seat of pleasure, fear, and desire, the soul alone, the soul using a body, or a third thing produced from the two? The answer definitely excludes any mixture of soul and body, not so much because mixture is a physical concept inapplicable to soul, as because Plotinus wishes to preserve the closest possible connection between our soul and the world soul. Necessary for understanding Zeller's quotation are the words that open the chapter.

> The composite [living being] exists because of the soul's presence; but the soul does not give herself as such to the composite or to its element [the body]. But from a definite kind of body and something else like light that is given off from her, the soul produces a different thing—the nature of the living being. Of this nature, perception and all the other passive states of a living being are to be predicated.[10]

Thus the soul does not dwell in the body; it remains apart and sends a representative, so to speak, its image. In the Plotinic system, then, it is this *nature* that functions as the soul is supposed to function in the more common view of things. This nature forms the mysterious connection between physical or chemical changes in

[9] V v 1, 15-19. [10] I i 7, 1-6.

the body and the purely spiritual conscious perception that leads to intellectual heaven. Plotinus then goes on to ask how, in view of the role of *nature,* can it be said that we, the real we, the higher soul, perceive? He answers that there is a connection between soul and nature, and then in the words quoted by Zeller speaks of perception for the soul. In these lines, therefore, one must not see an assertion that sensation, a function of the living body, grasps only impressions in the body; the correct explanation is that the higher form of sensation, the activity of the soul as distinguished from the function of *nature,* does not grasp sensible objects, but indeed directs its attention to intelligible objects, which somehow have followed upon literal sensation. While the general principle of this explanation appears in many other passages, Zeller ought to have taken warning from this passage itself. The words that immediately follow the phrase "For these are already intelligible objects" are "with the result that [or because = ὡς] external sensation is its image, while it itself, in reality the truer, is the impassible contemplation of forms".

The bolder interpretation of Boyer that the soul creates sensible objects is likewise untenable. He had attempted to support his position by the lines: "In the same way the soul is connected with sensible objects, and of her own power makes them shine, as it were, and puts them before the eyes; for her power is suited to give birth with reference to them."[11] But this passage does not show that the soul creates or gives birth to sensible objects. The meaning is, rather, that the soul gives birth to memory; she gives birth *with relation to* the sensible objects.

If these arguments serve to rule out the theory of impressions, and, with the epistemological, indeed the ontological, demands of realism, establish the necessity of external objects for sensation, a short reference in conclusion may complete the precautions against understanding spiritualism in any Berkeleyan sense. "Intellect", writes Plotinus, "is not related to its objects as sensation is to the sensible objects that are prior to it. Intellect is its objects."[12] If, therefore, the objects that are seen are prior to the faculty of sensation, they cannot depend on any subjective process. In relation to an individual person, they are real, objective, and external.

[11] IV vi 3, 16-19. [12] V iv 2, 46.

II. THE PROCESS OF SENSATION

With the relative independence of the sensible object established, the next problem is the description of the manner in which sensation takes place.

The solutions to this problem may be classified under two chief heads: mechanistic and non-mechanistic. The former group includes the crude Epicurean theory, the more complex Stoic account, and—though mechanistic is a strong word for it—the Aristotelian position as well. Plato is the sole member of the minority group, but he happens to be right. The basis on which these two groups are separated is their assertion or their denial of a medium of sensation. At this point a subdivision within the mechanistic group must be made. Aristotle and the Stoics, on the one hand, had assumed the existence of a continuous medium, while Democritus and the Epicureans had used the medium of a stream of effluxes passing from the object to the eye. The difference between Aristotle and Democritus runs deeper than the one problem of sensation; their contrary theories are applications of more general world views; and likewise, when Plotinus rejects them both, it is because of his underlying principles. Without these basic postulates Plotinus' position would be extremely puzzling, for he denies both the continuous medium of Aristotle and the effluxes and void of Democritus.

Since Aristotle had argued that a medium was necessary because a sensible quality itself at a distance from the organ could not affect the organ, Plotinus had to supply some general view to explain what appears to be a case of transmission without a medium. To this end he offers his theory of sympathy.[18] Because it is a perfectly general principle, comprehending all types of agent-patient relationships, it does not advance the study of sensation in particular; it does, however, harmonize the rejection of a void and the rejection at the same time of a medium.

Plotinus' high rank as a philosopher is at least partly grounded in his success at synthesizing elements from the many preceding schools of thought without becoming entangled in their systematic difficulties. The theory of sympathy is a happy illustration of this

[18] IV v 1, 35.

process. First, there is the Pre-Socratic principle that like acts upon like: the cause and the effect, whether in epistemology or in physics, must resemble each other. Second, the term itself is borrowed from the Stoics, who derived this notion from their theory of complete mixture. But the chief inspiration, as always, comes from Plato. The world, therefore, is conceived, not as an aggregate of inanimate atoms moving mechanically in a void, but as a living being, or as some translations crudely call it, an animal. In a living being it is not literal proximity that determines one organ to affect another. The eyes, for example, produce a sympathetic reaction in the stomach without affecting the more closely situated teeth. Similarly in the universe one object is an agent and another is its patient, not by any means of rigid connection, but by an action at a distance depending on resemblances between the two objects.

As the acceptance of the general theory of sympathy results from the falsity of mechanism, so the application of this theory to the particular case of sensation depends on its displacing the theory of a medium, and can be indicated by continuing the previous illustration. Suppose the teeth and the gullet were the means of transmitting an affection from the eyes to the stomach. Under such conditions the reaction of the stomach would be less by the amount of energy absorbed by the intervening parts. Hence a medium would dull one's perception. While admitting that air or some type of body occupies the space between the organ and the sensible object, and that this body is in contact with both, Plotinus denies that it is a means of vision. A dense body placed between the eye and the object obviously prevents vision; if the body is less dense vision will perhaps be possible; and the rarer the intervening body, the less of a hindrance to vision it will be; but no matter how rare, it cannot be considered a means or an aid to seeing.

Contrariwise, if a block of wood is put in the fire, the fire can reach its center only by means of the parts nearer the surface; but, as long as these parts are not destroyed, they act as insulation. Now some natural processes do indeed require a medium. And the very reason that nature provides a medium in these cases is that thereby the affection may be modified to prevent destruction. If fire

acted at a distance without a medium, human life would be impossible. But obviously sensation falls under a different category. Arguments will show that sensation, unlike combustion, is a case of action at a distance. And yet, without a medium, at least without an intervening body, there would be no sensation. The conception of the world as a living being implies a continuous universe. But continuity as such is not the explanation of sensation, since, if it were, everything would have a sensible perception of everything. A continuum is, however, an indispensable condition of sensation, and a void would make sensation impossible, not because of mechanical principles, but because a void would destroy the world as a single living being, rendering all action at a distance impossible.

The situation is similar to the fall of a stone. Though it must fall through the air, the air is not the medium of its falling; its fall is explained by its weight, not by the air pushing it downward. Trees grow upward through the air, but obviously air is not the means or medium of their upward growth. The basic difficulty with the notion of a medium is that it involves a mechanical explanation of sensation, and mechanism is a mistake. Therefore, in sensation one must set aside both a medium which transmits by being itself affected, as wood is means and insulation to fire, and also an unaffected medium through which alleged streams of sensible species pass as a stone falls through the air.[14]

Finally, Plotinus mentions again that most important of considerations—the epistemological. If a sensible object affects the air, and then the affected air at last affects the organ, it follows that we do not see the object itself, but simply the air.

With the notion of sympathy as a background, the more specific explanation of sensation is derived from Plato. In the *Timaeus* Plato assumed that the eye shoots forth a ray of light; this ray fuses with the homogeneous light of day; if then it strikes an object or a light reflected from an object, "the motions are transmitted through the whole body into the soul, and this is the sensation we call vision".

Plato's theory therefore seems to require a medium, the light of day. But Plotinus is in essential agreement. His arguments against

[14] IV v 2, 47.

a medium must be understood in their historical context. The prevailing materialism of the recent philosophers had required a physical medium for sight, and they had commonly identified that body as air. Both Epicureans and Stoics assigned an important role in the process of sensation to the air.[15] Hence when Plotinus argues against the existence of a medium, he is not denying a function to light, but is attacking views of the mechanical production of vision by a physical medium such as air. Light itself, however, is an impassive or non-mechanical medium.

The one correction, or rather the one clarification, that the Platonic theory needs is the recognition that the external or foreign light of day is not indispensable to sight. While it is needed in order to see objects at a distance, one may with pressure on the eyeball have a vision of the light within the eye. This is a seeing that requires no light of day.[16] Plotinus also notes that Plato's theory leaves unexplained our perception of the stars at night. Consequently it is the light which issues from the eye, not the external light of day, that is the chief cause of sight. This ray of light is a living organ, an extension of the soul, which stretches out like an antenna to touch the visible object. Vision, therefore, becomes similar to touch,[17] and with this explanation of Plato's theory no medium is necessary.

Since the theory of sympathy was to account for action at a distance, the question immediately arises as to the necessity or function of the visual ray. The answer is found in the following lines:

> In this case one must discover whether sight [the visual ray] must proceed there [to the object] because an interval exists or because there is a body in the interval. Now, if it is because of a body in the interval, there will be vision if the obstacle is removed. But if it is because of the interval simply, one would need to assume that the visible object was inert and completely inactive. But this is impossible.[18]

[15] Lucretius, *De Rerum Natura* IV 244-255; Arnim, *S.V.F.* II 864, 866, 868. Cf. Theophrastus, *De Sens.* 51.

[16] V v 7, 24ff.

[17] IV v 4, 10ff. Bréhier, *Notice* (*in loc.*) p. 61, understands the reference to touch as a *reductio ad absurdum,* and, because he can see no function for the visual ray, seems to conclude that it does not exist. That Plotinus asserted the existence of such a ray is evident from V v 7, 27, and IV v 7, 23-25. Bréhier's interpretation requires the argument to be construed as a *modus tollens,* but since the conclusion Plotinus intended is patently the rejection of a medium, no such construction can result in a valid syllogism.

[18] IV v 4, 17-22.

To examine the end of this quotation first, the last two sentences reflect the theory of sympathy by asserting the power of affection resident in any body or object. The only assumption by which one could say that the interval alone and not the corporeal intervenient was the cause of the visual ray would be the complete passivity of the sensible object. But sensible objects are not passive. Far from being inert, it is the activity of the sensible object on the organ that is the effective cause of sight. For touch, which is a clearer illustration, not only reports to us that an object is near, but by being affected it informs us of the object's qualities. These qualities are so active that even touch, unless there were some separating medium, would sense them at a distance. This actually occurs when standing before a fire. We are warmed before the intervening air is warmed, and to a higher degree than it. If, therefore, there is a power to act in the sensible object and any degree of receptivity in the organ, no medium of sensation need be assumed. At the same time, this consideration shows that distance alone does not explain the necessity of a visual ray.

The main point of the quotation is that a dense body, usually air, fills the space between the eye and the object; that this reduces the intensity of sympathetic action; and that it would prevent sensation altogether unless this insulation were pierced by the visual ray. Therefore, when Bréhier asserts[19] that this consideration assigns to the visual ray only an accidental reason for existence, his phraseology is plausible. If there were no obstacle, sight would occur without the ray. But with Plotinus' more general world view in mind, the reason for the ray's existence is seen to be a uniform and regular accident. For one must remember that the world as a living being is continuous and therefore some body will always occupy the interval. So, then, when Bréhier also wrote, "de plus on ne voit pas pourquoi la faculté visuelle sort ainsi de l'œil", he must have missed the point that the ray has as its function the piercing of the obstruction. The obstruction is the air, which is dark.[20] When the obstruction is too dense, as it would be if

[19] *Notice* p. 61.

[20] Cf. IV v 2, 15ff., and 56-61. Mackenna is clearly wrong if he identifies the body in the interval as the visible object itself. His translation of IV v 4, 20, as "If by the presence of such a body, then there will be vision though there be no intervenient", ruins the progress of the argument.

a stone wall were between the eye and the object, the ray cannot penetrate it and vision of the object in question ceases.

The utilization of a visual ray to pierce obstructions may seem to a modern reader to be inconsistent with the spiritual, non-mechanical explanation of vision, but Plotinus was confronted with the stubborn empirical fact that we cannot see through opaque bodies and hoped that the assimilation of all bodies, air included, to soulstuff would acquit him of any serious charge.

To avoid possible misunderstandings and especially to support further the denial of a medium for perception, it is necessary at the risk of a slight digression to indicate the nature of light. Most emphatically light does not receive an affection and transmit it to the organ. Aside from previous arguments against transmission, light by its nature is incapable of progressive transmitting.

First, air is not the substratum of light.[21] That light does not depend on, or is not an affection of, air is proved by the fact that light belongs to every fiery body and to some stones. But this fact of itself does not rule out air as necessary to the passage of light from its source to the eye or to an illumined object. Now if light were a quality in the Aristotelian sense of the word, its propagation would require a substratum as a medium. But light is not a quality, either of the air or even of the source. If light were an accident or passive state of anything, an object illumined by the sun would retain the quality of brilliance after the sun had set. And this, too, would involve the consequence that the sun is constantly losing its light.

Nor is light a substance. It is, instead, an activity of something, and as such can pass through, or, better, can pass over, a distance even if the distance were a pure void.[22] Air could be needed as a substratum only to prevent the ray of light from falling down, or to coax it from the luminous body and start it on its course, and both of these reasons are absurd.

An activity, on the other hand, comes from a substratum, but does not pass into another substratum. The other substratum, however, may be affected if properly placed. In this life and light are analogous. Life is an activity of the soul that may animate a body

[21] IV v 6.
[22] Contrary to Aristotle, *De Anima*, 419 a 15.

properly situated; but, if no body is present, life is still an activity. Similarly light is the activity of a luminous body. The dark, dusty air does not produce light nor transmit it; it obscures it.

The main conclusion, therefore, is that air as a continuous medium is not necessary for the transmission of light. None the less, body is required for the perception of light. Above the earth's atmosphere, as we know today, one can see the sunlight only by looking toward the sun—a body. On the earth's surface, on the other hand, we can see the sunlight without turning toward the sun because of the air, or the dust in the air—a body. If therefore the sun itself is to be seen, it must be a body and cannot be pure incorporeal light. If it were pure light, there would be light in no other visible object, and only the sun could be seen, for the other visible objects are not pure light.[23]

Plotinus also adds a much less convincing application of his principles to sound and audition.[24] All sensation, then, is to be understood as an instance of sympathy without benefit of media.

III. BODY AND SOUL

Proceeding inward from the external object through the visual ray, the exposition must next treat of the necessity of organs in sensation. When light is denied the title of physical medium between object and organ, when the force of sympathy seems to raise the possibility of action by the sensible object directly on the soul, it may appear that Plotinus' spiritualism has so extruded body from the situation that not even an organ is necessary. This, however, is not quite the case. For, though there is no medium between organ and object, the organ is itself a medium between object and soul.

A sensation is not an impression, and, as Plotinus frequently repeats, the soul is impassive. But "to deny that alterations take place and are sensed distinctly is contrary to clear fact. But while admitting this, one must ask what it is that changes. For if we attribute these modifications to the soul, we are in danger of regarding the soul as if it could blush or turn pale."[25] "In the case

[23] V v 7, 8-16. The last part of the argument limps even after confounding *visible* with *light*.

[24] IV v 5.

[25] III vi 3, 4-9.

of sight, the seeing is an activity and it is the eye which is passive."[26]

From these two passages it is clear both that the soul is impassive and that sensation is an activity. And again:

> Sensations are not passive states, but activities with reference to passive states. They are judgments. Passions arise in something else, in a sort of body, but judgment occurs in the soul and is not a passive state. Otherwise there would be need for another judgment, and so on in an infinite regress. None the less we have here a difficulty if the judgment as such has nothing of the thing judged. Or, if it has an impression, it has been modified. However, it is possible to say even of the so-called impressions that their mode is completely different from what is supposed. Like thought they too may be activities and may be able to know without undergoing any modification. And in general neither reason nor volition subjects the soul to changes and alterations, such as the heating and cooling of bodies.[27]

These lines disclose the main reason for denying that sensations are passive states. Such states must be conceived as heatings and coolings, that is, as corporeal motions. Aristotle originally defined the category of passivity on the basis of physical changes, and the term should be restricted to that meaning. Sensation, then, is an activity. The word *activity*, however, regardless of its original significance, Plotinus uses precisely to avoid physical connotations. If modern readers find it difficult to see how anything can be active without changing, this very difficulty should make it easy to see that Plotinus is attempting to remove all notions of body and its peculiarities from the concept of soul. He is struggling with the concept of pure spirit. Sensation, then, is not a physical motion. To be sure, all this refers to sensation when the soul is regarded as the subject. It is that sensation which is called a kind of judgment.[28]

There is also the more literal, or at least the more physical, phase of sensation, in which the subject of study is not the soul as such, but the organ regarded as a mean between the object and this more internal consciousness. Hence Plotinus does not hesitate to call sensation, in this derivative or lower sense, a motion through the body.[29] Soul and body collaborate in sensation; the former is the artisan, the latter the instrument; for which reason sensation

[26] III vi 2, 53. [27] III vi 1, 1-14. [28] I i 6, 11. [29] I i 6, 11.

is called a work common to body and soul.[30] Or, more fully, sensation is the soul's using the body for grasping sensible objects.[31] "Each part of the body illumined and animated by the soul participates in the soul in its own peculiar manner. And according to the fitness of the organ for its work, the soul gives it a power suited to that work. Thus the power in the eyes is that of sight."[32]

The organ is not of itself capable of producing a sensation; it is a means and must therefore be used. Plotinus' words are: "An organ is not sufficient for vision or for sensation of any kind. The soul must be inclined toward the sensible objects. . . . And when we are engrossed in intellectual objects, sight and the other sensations escape our attention; and in general if we attend to one thing, we miss the others."[33]

If the organ is not sufficient, however, is it even necessary for sensation? Why must the soul use an organ at all? A preliminary and very partial answer to this important question is that organs differentiate the several types of sensation. Were there no eyes or ears, sight and sounds would not be disparate sensations. The sensible object itself is an image of an ideal object; it differs from its model by being less unitary and more extended in space.[34] In grasping the sensible object, therefore, we grasp the intelligible object after a fashion. Thus it may be said that all perceptions are perceptions of forms, though these forms may take on all shapes, such as red, sweet, or loud.[35] This is a partial answer to the question why organs are necessary for sensation; at least it shows why organs are necessary for disparate sensations. But why should there be disparate sensations at all? Why cannot the soul perceive without any organ?

The most explicit answer to this question is given in IV iv 23. The chapter opens with a definition of sensation: "the perception of sensible objects is the grasping of qualities attaching to bodies by the soul, or by the living being, when it is conscious of them and makes a copy of them on itself." To grasp these sensible forms, the soul cannot be alone without an organ, for by itself it perceives its own content, and this is intellection, not sensation. If it is to

[30] IV iii 26, 1-9. [31] IV vii 8, 2. [32] IV iii 23, 1-6.
[33] IV iv 25, 1 and 5. Cf. IV vi 3, 16-19.
[34] V iii 9, 30-32. [35] IV iii 3, 12-20.

perceive other things also, it must first have come into possession of them either by becoming like them or by being conjoined with something that is like them. To become like those things, so long as the soul remains by itself, is impossible. And hence the theory of sympathy does not provide for the action of a sensible object directly on the soul. The soul alone is not the man which the soul produces; even if it were able, when alone, to attend to a sensible object, there would be no useful purpose served, since, on the assumption that sensation is to lead us to the intelligible world, the soul alone can already contemplate the intelligible model. But, as a matter of fact, it is not able. The sensible object escapes the pure soul because, in reality, the soul does not have the means of grasping a sensible object. To illustrate: take a visible object that the soul sees at a distance; granted that its primary purpose is to bring before the soul its ideal model in the intelligible world, and in this sense is related to the soul as an indivisible reality, none the less the actual process requires an extended, colored object, and the soul sees this extension and color.[36] Therefore, these two, the soul and the external object, cannot be the only factors, since the soul is impassive. There must be a third and passive factor also to receive the sensible form. Sensation was previously explained to be a case of sympathy. Now this third factor is precisely the organ that can experience a sympathetic reaction to the sensible object. The organ must come to possess the same modifications that are in the object and be of one matter with it. One is tempted to repeat Aristotle and say that the eye becomes red and the ear sonorous. Thus the organ will be passive, the soul will know, and the passive state will be such as to preserve something of the body producing the affection without, however, being that body.

Just as the visual ray is a sort of extension of our soul, a semi-soul as it were, so too the sensible quality and the sensible object are derivatives of the worldsoul on a lower level of reality than our soul or the visual ray. Because, then, all these factors are basically spiritual in nature, the organ, like a mean between the object and the soul, has an affection lying between the sensible and the intelligible like a mean proportional. Thus in a fashion it joins the extremes to each other, being both receptive and annunciatory,

[36] This sentence is the interpretation of the difficult lines IV iv 23, 15-19.

made for the purpose of being like both. Since it is an organ—that is, an instrument for acquiring a certain kind of knowledge—it cannot be identical with the knower or the known, but is adapted to be like both, like the external object by reason of its passivity, and like the internal soul because its affection becomes a form.

Perhaps in this last clause one suspects that the whole unsolved problem is smuggled back into the alleged explanation. Materialistically minded people have no trouble imagining a sensible object's impressing an organ. Whether it be by sympathy or by propagated lightrays makes little difference. But how can the soul perceive the affection in the organ? How does a chemical change in the retina become an intelligible form? And if the soul perceives a chemical change in the retina, what becomes of the realistic epistemology that asserts we grasp things and not mere phenomena?

It is quite clear that Plotinus intends to maintain his realist or dogmatic position. Although it may seem at first that the soul perceives the affection in the organ and not the object, Plotinus continues to assert that the organ must be different from the object perceived.[37] In the immediate context the proof of this assertion reduces to the problem why an organ is necessary; and if the argument of the chapter has demonstrated this necessity, the problem is solved, for to use an organ *is* to have a sensation.

Perhaps this does not yet seem to be an altogether satisfactory escape. To Plotinus, however, it serves to advance the solution more than the materialist would be willing to admit. Materialism may have no trouble with chemical changes on the retina (except the troubles of life), but, as Plotinus showed in one of his earliest tractates, materialism is notoriously incapable of advancing beyond unconscious chemistry. The objections suggested arise from trying to judge Plotinus on a materialistic basis. Plotinus, however, convinced of the failure of mechanical explanations of life, has already attacked the problem from the other end; for him, it is the problem of explaining organic functions in terms of soul rather than of explaining sensation in terms of chemistry. Neither the red in the eye nor even the red in the object is a mere matter of chemistry. In this spiritualistic system the red of the object is the result of a

[37] IV iv 24; and the first section of this article.

spiritual contemplation,[38] and the perplexity is removed because the sharp Cartesian dualism that produces it is not present.

And yet Plotinus is not completely satisfied. To give a complete answer, it is necessary to exhaust the relation between soul and body. The fundamental importance of this investigation is seen, aside from the logical exigencies of the system, in the fact that Plotinus devoted one of his last, his most mature, and most complicated tractates to this subject.[39]

The tractate opens with the question whether pain, pleasure, sensation, etc., have their seat in the soul so as to involve a motion of the soul, or in the body, or in a resultant combination. From the impassivity of the soul Plotinus deduces that these experiences cannot have their seat in the soul. Sensation is explicitly denied to the soul on the ground that it is a reception of the form or affection of a body.[40]

Even though the soul uses the body as an organ, it is no more compelled to receive the affections that come through the body than carpenters are compelled to receive the passive states of their tools. But must not the soul have sensation if it is to use an organ and know[41] the external affections by sensation, for to use eyes *is* to see, to use an organ *is* to sense? How, then, to return to that most difficult question, do the affections of an organ come before the soul? A body may share its states with another body, but how can a body transmit a bodily affection to the soul? This would be the equivalent of one object's suffering the modification of another. As long as one is the user and the other is the thing used, each

[38] III viii. [39] I i.

[40] Mackenna translates I i 2, 26-27, as "sensation is a receiving—whether of an Ideal-Form or of an impassive body". This virtually impossible interpretation depends on the rejection of an emendation by Gollwitzer, who substituted ἢ καὶ πάθους for ἢ ἀπαθοῦς. Gollwitzer might have better omitted the καί, for it is not a disjunction but an explanation that is intended. To prevent the mistake Mackenna made in taking εἴδους, as Ideal-Form, Plotinus added ἢ πάθους. That εἶδος does not invariably mean Ideal-Form is clear from lines 3-5 of this same chapter. H. F. Muller in *Plotinische Studien* III, *Hermes* LI (January 1916) 110-111, rejects the emendation and anticipates Mackenna's interpretation. He does so only by utilizing the distinction made later between sensation of the soul and sensation by the animate body or nature. But if Plotinus had intended this internal, higher sensation, the conclusion at this point would have been that the soul indeed is the seat of sensation. Since the conclusion here is exactly the opposite, Plotinus must have meant the organic phase of sensation.

[41] Bréhier's emendation in I i 3, 7, does not seem to be a happy one. Either Ciz. or A B D is better.

must be kept distinct; and he who makes the soul the agent separates them. The solution involves a distinction. The soul itself is twofold, one part being the agent strictly, and the other, that *nature* which is the result of the soul's illumining or animating the body, being itself a sort of organ.

Comparative philosophy as well as the wording of this solution seems to suggest that Plotinus, to connect two unconnectable elements, resorted to a device popularized by Philo and used with abandon by the Gnostics. It is the device of mediators. If God is so transcendent or holy as to be unable to come into contact with matter, and yet must do so for this or that reason, a mediator, neither God nor man, is invented to bridge the gap. Athanasius, in his *Defense of the Nicene Definition,* makes the point that such an expedient renders impossible the creation of or contact with a first mediator, and so an infinite series results.[42] Late antiquity, as the multiplication of ranks in Proclus shows, went its way inventing mediators; are we not to say that Plotinus himself was already well advanced on the same road? The disparity between soul and object is halved by the organ; the disparity between organ and object is halved by the visual ray; the disparity between organ and soul is halved by this *nature;* and so one is to leap across the Grand Canyon by jumping half the distance first.

IV. UTILITY AND KNOWLEDGE

The purpose of sensation met with so frequently as to raise a doubt whether there be any other is utility. There is a common contrast between utility and knowledge, and sensation may seem to be restricted to warning the soul of corporeal agents injurious, or advantageous, to the living body. "When the intellectual intuition and knowledge of objects is very clear, it is not necessary, even though these objects occur sensibly, to disregard that knowledge and fix the attention upon the particular sensible object, unless one has to manage it for some task."[43]

Since pleasure, pain, and desire, are classified as sensation, what is said of them may with care be transferred to sight and hearing.

[42] The Christian mediator, who is both God and man, involves, of course, a different notion of transcendence, springs from problems foreign to paganism, and does not face this objection.

[43] IV iv 8, 3-6.

In IV iv 18 ff. Plotinus argues that, although the true person is the soul which animates the body, and not the body nor even the animated composite, we are not free from the body; it belongs to us and we must care for it. Therefore pleasures and pains concern us in proportion as we are weak and dependent on the body. Pain is then defined as the recognition of constraint when the body is deprived of the animating images of the soul; and pleasure is the living being's knowledge that the image of the soul is again being harmonized in the body with resulting health and wellbeing. While pleasure and pain themselves belong to the body, the perception of the pleasure or pain is in the soul, or more exactly in the *nature*. The distinction between pain and the knowledge of pain provides for localizing the affection. If the soul itself felt the affection, the pain would be wherever the soul was, and not merely in the finger. And further, if the soul itself suffered, it would be incapacitated for an accurate reading of the trouble in the body.

The explanation of this lies in the fact that there has come into existence a body that wishes to be more than a body and has acquired motions the soul does not have. Thus for its preservation and development it is forced to turn, to sweet, bitter, and many other objects, of which it would have no need were it body only. By taking note of pain, the soul, which wishes to deliver the body from harm, engineers a flight from the harmful object. And this flight is first seen in the contraction of the organ primarily affected, as when the finger jerks away from fire. Hence an important function of sensation is the preservation of the body.

> We must now discuss whether sensation is for utility only. If the soul when alone has no sensation, but senses with the body, sensation must be for the sake of[44] the body. Sensations come from the body and are given to the soul by reason of its union with the body, or in fact they follow of neccessity [from that union].[45] For the greater the bodily modification is, the more forcibly it arrives at the soul; and sensation

[44] Διά here probably means "for the sake of"; Mackenna's "by means of", while plausible, involves considerable tautology and does not follow through the notion of utility.

[45] There is a textual difficulty here. The reading of B, ἐπακολουθοῦσα, gives an explanation or slight modification of δοθεῖσα. The γάρ clause following explains why sensations necessarily follow the union of soul and body. The reading ἐπακολουθοῦσης, adopted by Bréhier, is beset with grammatical difficulty. Presumably it would mean that the soul is compelled to follow. This notion, however, neither connects so smoothly with the preceding, nor is it so well explained by the following.

> is so ordered that we are protected before the agent becomes so great as to cause injury, or even before it comes near. If this is the case, sensations are for utility. For, even though they also aid knowledge, they do so only for one who has no knowledge and is ignorant through misfortune, so that he may recollect what he has forgotten. Sensations would be of no use to one who had no need or who had not forgotten.[46]

That sensations are for preserving the body from harm is thus sufficiently clear; but who on earth, according to the Platonic theory of reminiscence, is not forgetful and does not need to recollect? From this paragraph on utility, therefore, one is led directly to the problem of sensation's function in learning. Anything resembling an exhaustive account of Neoplatonic epistemology is obviously out of the question in the remaining pages of this article, but something to the point of the problem as stated is called for.

First of all, in the section emphasizing utility, there is a sentence which, despite its hesitant context, points beyond utility. "For in sensation there is also, beyond utility, a sort of knowledge that is not without refinement, such as knowledge of the sun, the other planets, the heaven and the earth. For the sensation of these objects is a pleasure in itself."[47] Whether this refers to the aesthetic response, or to astronomy, or both, it is at any rate beyond utility and within at least the wider sphere of knowledge.

Other preliminary references include the assertion that the belief that sensible objects exist depends on sensation.[48] And later in the same tractate discussing the classification of qualities, the suggestion is made that the differences among organs be used as the basis. And under the heading *Body and Soul* above, two passages were mentioned teaching that organs and not objects are the source of disparate sensations.[49] Then, if classification is a matter of logic and knowledge, sensation has again gone beyond utility. Another preliminary text states that experience of evil in this world, and this must surely include sensation, produces by contrast a clearer knowledge of the good.[50]

Much more explicit, however, is the argument connecting sensation with memory and imagination. In general, sensation provides contents for memory;[51] the visual image of sensation becomes,

[46] IV iv 24, 1-12. [47] IV iv 22, 40-43. [48] VI iii 10, 12-17.
[49] V iii 9, 30-32 and IV iii 3, 12-20.
[50] IV viii 7, 15. [51] IV iii 29, 19ff.

when sensation no longer exists, a memory-image, and thus sensation culminates in, what is the equivalent of memory, imagination. Thus a progress toward knowledge has been started. Sensation is a critical faculty, and imagination is quasi-intellectual.[52]

To show that this is truly a progress toward knowledge, it is necessary to connect these images with the higher functions of discursion and intellection.

> We separated the functions common to soul and body from those which are peculiar by the fact that the former are corporeal and not without body, but all those which do not need body for their actualization are peculiar to the soul; and discursive reason passing judgments upon sense-impressions already contemplates forms and contemplates them as it were with sensation. We mean discursive reason strictly, in the true soul. For true discursion is an activity of intellection, and often it is the likeness and union of external objects with internal objects.[53]

The connection between sensation and the higher functions, so obviously asserted in this quotation, is further established in the discussion of the *Hypostases Which Know*.[54] It is not only sensation that deals with external objects; discursion and opinion also grasp them. Whether the intellect does so, is not so clear.[55]

> The reasoning function of the soul, on the basis of images derived from sensation, combines, divides, and pronounces judgment. In the case of representations coming from the intellect, it observes them as if they were impressions, and has the same power with respect to these also. And understanding is gained as the soul recognizes and harmonizes the new and recently arrived impressions with those inherent in it of old. And this is what is meant by the soul's reminiscence.[56]

Plotinus is obviously referring to Platonic reminiscence, and since "the new and recently arrived impressions" must be sensible impressions, there is here, more explicitly than in the writings of Plato himself, a continuity between sensation and the higher knowledge. After asserting again, at the end of this chapter, that discursive reason is a meeting point for the impressions of sense from below and the "impressions" of intellect from above, Plotinus immediately attempts a more detailed description of the connection.

[52] IV iii 23, 31. [53] I i 9, 15-23. [54] V iii 1ff.
[55] V iii 1, 20. Διάνοια and δόξα grasp external objects in a sense pertinent to the present subject; νοῦς may do so in a fashion further removed from the literal meaning of sensation. And if this be the case, sensation will be an aid not only to discursive reason, but to νοῦς as well. [56] V iii 2, 7-14.

> For sensation sees a man and transmits the image to the discursive reason. And what does reason say? It will say nothing yet, but knows only and stands still; unless indeed it asks itself, "Who is this?—if it has met the man previously—and says, by making use of memory, that he is Socrates. But if it should explain, it separates the material imagination gave it. If it should explain whether he is a good man, it would speak out of the things it learned by sensation, but what it said about them would depend on itself because it has a standard of good within itself.[57]

Not only are discursion and sensation so closely connected, but in the immediately following lines even the intellect is involved, for it illumines the discursive faculty to strengthen it for the sensation of good objects. In this way, therefore, a strict continuity is established from sensation through memory and imagination on to discursion and at last even to intellect.

Finally, there remains a slightly different question, whose answer, because it turns aside a difficulty, enforces this continuity from sensation to intellection. If intellect supplies us with the norms by which we judge sensible objects, how is it that we are not conscious of its action? Its activity permeates all our mental life, for there is no such thing as a bare sensation. Some element of judgment always enters, and therefore apparently we ought to be more continuously conscious of intellect than of sensation and discursion. In fact, since intellect never ceases to function, why are we not always conscious of its action?

One part of the intricate answer to this question requires a distinction between, to use later terminology, the noumenal self and the empirical self. The continuous activity of intellect is known to the noumenal self because intellect is that self. Plotinus draws a farreaching analogy between our (the empirical self's) being unconscious of the activity of intellect and our being unconscious of many biological processes acting continuously in our body.[58] If the vegetative life were the noumenal self, we, the empirical self, would be conscious of its functioning only under particular circumstances. And if this occasions no surprise, neither should our intermittent perception of the intellect's activity.

More explicitly, intellection escapes our notice because it does not relate to a sensible object; and consciousness requires sensible

[57] V iii 3, 1-9. [58] I iv 9, 24ff.

objects.[59] Intellect and even soul, in its highest phases at any rate, have an activity prior to sensation and all perception. Otherwise to think and to be would not be the same.

The perception of these activities seems to occur when the thought is bent back, as if it had gone forth, had struck a mirror, and had returned. If the mirror is not there, or if its surface is damaged, there will be no image; but this does not affect the subject that would have been reflected. The soul, at least in its lower phase, is like a mirror. When in condition, it reflects the objects of discursion and intellection; thus we see these objects sensibly as well as know them with the prior form of knowledge. If, however, the soul is disturbed, because of bodily disorder, there is imageless, unconscious thought. Unconscious activity should be considered neither strange nor inferior. A courage, for example, that is too conscious is hardly noble; and a person reading with complete concentration on the subject-matter will be unconscious that he is reading. In fact, consciousness, as the opposite of concentration, weakens the acts it accompanies and dissipates their force.

Another passage of similar import considers the relation to sensation of discursion only.[60] The immediate problem is the possibility of remembering concepts or reasonings. Since in the visual or auditory sense of the word there can be no "image" of discursion, Plotinus brilliantly suggests the verbal formula as a substitute.

> The concept is indivisible; and not yet externalized it remains internal and escapes our notice. But speech, by unfolding it and leading it from the state of thought to the faculty of imagination, exhibits the thought as in a mirror, and thus we have the perception of it, its conservation, and memory. And therefore since the soul is always thinking, we have perception whenever it arrives at this stage. For thinking is one thing, but perception of the thinking is another; and while we always think, we do not always perceive. This is because the recipient not only receives thoughts from above, but also sensations from below.[61]

[59] I iv 10, 2. Bréhier says that sensation is the only means of becoming conscious of intellectual objects. Plotinus says as much elsewhere. Mackenna says action on sensitive objects must proceed through the sensitive faculty. Certainly ταῦτα refers to αἰσθητῶν. Apparently Bréhier has given a better reason than Plotinus.

[60] IV iii 30.

[61] IV iii 30, 7-16. The last two sentences, if disjoined from the context, might give the impression that sensation hinders the perception of thought. But the first part of the quotation shows how these infelicitous lines must be taken.

Even when Plotinus warns that, if the sensible world gain the mastery over the soul that has descended into it (the empirical self), it will be impossible to perceive the intelligible objects themselves, he confirms the view that only in sensation do we have the perception of thought. "For the intelligible object comes to us only when the soul has descended to the level of sensation."[62] It cannot be said without qualification that an event in any given part of the soul will be perceived. If the event permeates the whole soul, no doubt we shall be conscious of it. But even with respect to the lower functions, such as desire, there is no consciousness if it remains in the appetitive faculty. To be perceived, it must pass on to the inner faculty of sensation, or discursive reason, or both. And if this be true of the lower functions, why should it not be true of the highest functions?[63]

In other passages Plotinus speaks of setting aside the body, the soul that fashions the body, sensation, desires, and the other faculties that incline us toward perishable things, in order to know intellect.[64] And also, in apparent contradiction to the previous statements that we always think but do not always perceive, we have the assertion that we always sense and reason, but do not always use the intellect.[65] The apparent inconsistency is removed by observing the much more accurate definition of self in this passage. Previously it was the whole soul that was discussed, and the stage at which perception occurred had to be distinguished from the other phases of soul. Here there is mainly in view the empirical self, and man is identified with the discursive faculty itself.[66]

The exhortation, therefore, to leave the realm of sensation is in no sense a retraction of the theory of sensation, but a confirmation of it. Sensation is related to knowledge by being a first step toward knowledge. Had there been no incarnate life, sensation would have been unnecessary.. Under the actual conditions most men must begin with sensation. "If anyone cannot grasp the first and purest contemplation, let him take the faculty of opinion and ascend from there. But if he cannot even grasp this, let him take sensation which provides us with forms more extended in space. . . ."[67]

[62] IV viii 8, 6.
[63] The same considerations are repeated in V i 12.
[64] IV iii 9; V v 6. [65] V iii 3, 28 and 39-41. [66] V iii 3, 35.
[67] V iii 9, 28-31.

This in fact is the notion that unifies the whole theory. Sensation can initiate knowledge for the express reason that sensible objects are ideas extended in space. They are the visual, or sensible, images of eternal realities. In literal sensation, therefore, we are actually in touch with reality; to be sure we do not have a very firm grasp on it, but at least it is a contact.

The long passage, therefore, sublimating sensation is well summed up in its concluding words, which are also the appropriate concluding words here.

> It is clear and the argument has demonstrated that heavenly realities do not look upon things here below, but objects here below depend upon and are imitations of the objects there. And man here holds from Man those powers which have reference to the intelligible objects. Sensible objects are thus united with the sensible man, and intelligible objects with the intelligible Man. For these heavenly sensibles, as we may call them, must be grasped in another manner because they are incorporeal; sensation here, because it deals with bodies, is more obscure than apprehension there—which we also call sensation—although it seems clearer.[68] And therefore man here is a being of sense because his perception is weaker and what he grasps are weak images of objects there. Consequently sensations here are obscure intellections, and intellections there are clear sensations.[69]

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[68] In the Greek of this sentence Plotinus did not achieve the clarity of his heavenly vision.

[69] VI vii 7, 19-31.

THE TWO SIDES OF REALITY

A COMMONLY recognized way of testing the validity of a hypothesis is to carry it out to its logical conclusions. If it leads to absurdities and contradictions we reject it and try another point of view. There are several well known hypotheses concerning the relation of mind and body and most of them do not fare very well when tested in the way mentioned. Even the best minds among our philosophical contemporaries have given very different interpretations of this relation, and some of them have virtually given up the problem in despair. It is with much hesitation, therefore, that I venture into this field, but being lured, as so many others have been, by the perennial fascination of the problem, I have endeavored to test out one well known point of view, namely the theory advanced by Professor W. K. Clifford in his essays on *Body and Mind* and *The Nature of Things in Themselves.* Although I confine myself to the analysis of one hypothesis much of what I have said applies with little modification to other formulations of the general doctrine of parallelism.

When one begins to follow out more in detail the logical consequences of a hypothesis it often comes to wear a different aspect. I have found this to be true especially in attempting to push the analysis of Clifford's viewpoint somewhat further than is usually done. In embarking upon my adventure I shall start in the customary manner by considering the problem from the standpoint of commonsense realism.

In contemplating a bunch of violets I have a sensation of a blue color which, according to the commonly accepted interpretation, is aroused by light of a particular wavelength falling upon my retina. Although the blue of the violets appears to belong to an outer order of objects quite independent of my perceptions, which would be exactly the same whether I looked at them or not, or whether or not I existed at all, nevertheless the sensation of blue which I experience is a part of my stream of consciousness, and as such is conditioned by the peculiarities of my own organization. If I were afflicted by colorblindness the color-sensations associated with the violets would be different, although they would still seem to be a part of the objective world. The nerve-impulses which arouse my sensation of blue are carried to certain parts of the

brain whose activation is more or less immediately associated with my sensation of blueness whether we regard this activation as, strictly speaking, the cause of the sensation or not. This region of the brain may be somewhere in the occipital region of the cerebral cortex, which is apparently associated with the perception of visual objects. But, wherever it may be, we may assume that my sensation of blue depends upon, or is associated with, some kind of activity of a more or less localized region of my cerebral hemispheres, or at least of my brain.

My brain is, of course, a part of the world of objects, and I feel safe in inferring that it is much the same in structure and substance as the brains of other human beings. I may observe or even experiment with the brains of other people, and while I am precluded from knowing at first hand how my experiments affect the consciousness of my subjects, I may learn something from what they tell me concerning the results of my experimental procedures. What I recognize as the brain of another individual is a series of perceptions. According to the doctrine of Clifford, "What I perceive as your brain is really in itself your consciousness, is You, but then that which I call your brain, the material fact, is merely my perception." The reality which is the basis of my perception of your brain is consciousness, and hence both aspects of reality, physical and mental, are, according to Clifford, essentially the same; they both reduce to what he calls "mind stuff", which is the real *Ding an sich*. "Matter is a mental picture in which mind stuff is the thing represented."

This interpretation eliminates a third unknown (or unknowable) existence which has often been assumed as the fundamental reality of which mind and body are the correlative aspects. From this viewpoint there would seem to be no way of avoiding the conclusion that for every kind of external object, be it brain, stone, molecule, atom, or electron, there must be a corresponding aggregate or bit of mind stuff. There must be a point-for-point correspondence between physical phenomena and their ejective concomitants. According to Clifford, "Your body is an object in my consciousness; your mind is not and never can be. Being an object your body follows the laws of physical science, which deals with the objective order of my feelings."

Ordinarily of course we can become cognizant of only one aspect of the same reality at a time. My mind may become an object to you (as my brain), and your mind may become an object to me (as your brain), but our minds cannot as such be directly perceived by each other. As has been pointed out by Strong, the situation is different, however, when one is dealing with his own brain. It is quite within the bounds not only of theoretical but of actual possibility for one to observe his own brain and even to subject it to a limited amount of physical experimentation. If a part of my skull were removed I might contemplate parts of my brain and with a properly arranged system of mirrors apply electrodes or anaesthetics to different parts of it and discover how my sensations were affected. I might, theoretically at least, subject parts of my brain to high magnification and note the physical changes that go along with my several sensations. In this way I could experience at once a sensation and its physical concomitants, and thus, to a limited extent, bring both sides of reality within my ken. It would be at least theoretically possible for me to study the physical changes which accompany the sensation of blue derived from my violets and to note how these sensations are changed by tampering with particular parts of my occipital lobes. In this way an investigator might learn much about the details of psychophysical parallelism. He would have the unique advantage of holding both mental and physical processes within the limits of his own consciousness. While contemplating the inner and outer faces of reality at once and noting perhaps how his sensations of blueness would grow dim and disappear upon applying an anaesthetic in the proper place, and how the sensation gradually returned when these effects wore off, the experimenter might enjoy a peculiar sense of mastery in straddling the gap that separates mind and body.

If, however, our experimenter were of a reflective turn of mind he would soon find himself beset with puzzling problems. Especially would this be true if he asked himself what is the true perceptual picture among the many he might obtain of the workings of his cerebral mechanism. He surely could not assume that the physical reality he was seeking is the gross external appearance of his cerebral convolutions. Suppose he could see the precise parts involved in having a sensation of blue. Ordinarily he could observe

nothing of the activities of the parts studied, and it is these activities, and not the appearance of passive-looking convolutions, that are presumably the concomitants of conscious states. Even if his vision were enlarged by a system of lenses that would reveal the molecular changes of his cerebral substance, he would get a series of perceptions varying greatly with different degrees of magnification. If we imagine our magnification still further enlarged to the extent of revealing the movements of protons and electrons we should have a perceptual picture utterly different from anything that could be experienced by the unaided vision. The perception, my brain, therefore, turns out to be a very variable phenomenon, highly contingent upon the observational means employed. On the other hand, my sensation of blue is a fairly stable phenomenon. As a matter of fact the physical counterpart of my sensation which it is theoretically possible for me to perceive is practically removed from the possibility of actual perception. We are led, therefore, to form a sort of conceptual representation of the physical accompaniment which we may suppose to be some sort of molecular activity, perhaps some kind of chemical change. But our pictures of atomic behavior have undergone remarkable changes since the physics and chemistry of the Victorian period, and will doubtless undergo further changes. In fact, we are now frequently reminded of the impossibility of forming a concrete picture of the behavior of the ultimate constituents of the physical world, and can only represent them in terms of mathematical equations.

The blue of the violets in the meantime is still blue. But its physical counterpart cannot be identified with any one physical perception. We have one steady horse yoked to another creature as changeable as a proteus and as elusive as a will-o'-the-wisp. Our steady horse has his little vacillations which we may attribute of course to physical causes, but its other self regarded as a perception in my mind or in that of anyone else is of most changeable character. The relation which may be perceived between mind and body is a relation apparently between a fairly stable phenomenon such as a sensation of blueness and a series of physical perceptions, B, C, D, etc., which may be exceedingly different one from the other, yet each possessing the same claim to represent reality. It is only when we artificially abstract a conceptual physical order

and picture it as having a constant relation to mental processes that we arrive at a view that has any apparent plausibility. In our usual thinking about the mind-body problem this is what we commonly do. The order of events to which we relate our conscious states is mostly conceptual, and except to a relatively minor extent beyond the pale of actual perception.

The difficulties in the way of applying Clifford's solution of the mind-body problem apply also to all forms of parallelism as well as to some other theories. It is sometimes contended that this problem is a purely artificial one, a *Scheinproblem* of our own making. This contention is merely a confession of failure. We cannot get away from the facts that we have conscious states, that we also have brains, and that our sensations and ideas are more closely associated with the brain than with our hair or fingernails. Neither can we get away from the fact that our sensations are more closely associated with certain parts of our brain than with other parts. In the future we may have much more precise knowledge of how our sensations and other conscious states are related to our cerebral topography. All this would be simply an extension of the kind of knowledge we already possess. There seems to be no reason why we may not some day obtain very accurate information concerning the parts of the brain most immediately associated with our various psychical states. It may be also possible that we will know quite definitely the kind of physical and chemical changes in our nervous tissue with which our psychical states are associated. But however definite our knowledge of psychophysical parallelism may become it is still knowledge of the association of perceptions, or theoretically possible perceptions, which are very dissimilar. Our perception of blue may be found to accompany a molecular change of a certain kind in the occipital lobes. Even supposing that I could perceive both of these at the same time in my own brain, the relation between them would be quite mysterious and would simply have to be accepted as a fact of experience of which I could give no further account. It is difficult to conceive how any extension of knowledge of either the physical or the psychical side of this fact of experience could render it any more intelligible.

In Clifford's conception mind and body bear the relation of

reality and phenomenon. From this viewpoint my perception of your brain is the effect of a sort of impact of your mind upon mine. When I look upon the activities of my own brain I would accordingly interpret them as due to the impact which my mind makes upon itself. How are we to interpret the modus operandi of this impact? Here is my sensation of blue, which appears to be directly experienced, and my perception of brain-movement, apparently also directly experienced. As direct perceptions the two are on a par. Both of them, moreover, are conditioned by events in my outer world. An opalescent glass before my eyes would alter them both. Can we say that, reversing the usual interpretation, the sensation of blue causes the perception of molecular movement in my mind? It would indeed be difficult to prove that the sensation of blueness precedes its cerebral counterpart in time, and the reverse would be equally difficult to establish.

I might contend, however, that, if my sensation is the reality of which your perception of my cerebral process is the symbol in your mind, my sensation is the prior and determining existence, the *sine qua non,* or cause of your perception. Hence it might be said to be the cause of a similar perception of my own brain-action in my own mind. Any brain-event has its causal antecedents in the observed physical series. At the same time it would have as its basis or cause my own conscious state. Theoretically at least, all these events, physical and mental, might be a part of my stream of consciousness at the same time. That I do not mix them up is due to the circumstance that I arbitrarily assign my experiences to one or another of the two series that I call physical and mental. The sensation of blue regarded as belonging to the violets functions as a part of my external world. Considered as a sensation *per se,* or a thing in itself that I experience, it is simply a state of mind. As a matter of fact in making our constructs of mind and body we do mix up the elements of our experience and we often have difficulty in properly assigning them. When we discover that a mirage is not a lake we promptly read the lake out of our interpretation of nature, and make a more consistent reconstruction of our experience. And our dreams which, while they last, have all the seeming objectivity that any realist could desire, we relegate to the domain of phantasy as soon as we awake. Mind and nature are two con-

structs which we make out of our total experience. Nature is, for us at least, whatever it be besides, a conceptual order to which we assign our outer percepts and which we are constantly readjusting to give a logical explanation of the actual order of our perceptual world.

Assuming that nature is not merely my own private show, and that the objects of my outer experience are symbols of a reality of the same fundamental nature as my mental states and yours, we are driven to assume that there are conscious counterparts for all sorts of events in my outer perceptual world. The reality behind nature consists therefore of minds and subminds, and perhaps also of superminds. That the unyielding rocks and the myriad stars of the milky way stand for different kinds of submental realities may strike one at first blush as a fantastic conclusion, but this circumstance of course need not trouble the metaphysician. That things in themselves are essentially mental in character is no more unreasonable than that they are anything else, or that they belong to an unknowable *tertium quid;* and why, therefore, should entities be multiplied beyond necessity? One can interpret the causal connection of mind and body, or any other uniform connection that may exist between them if we choose not to consider it as causal, as involving relations between essentially similar existences. But although we may avoid some difficulties that beset such theories as automatism and interaction, which, interpreted from the standpoint of naïve realism, involve jumps in causal sequence in one or both directions between two very different kinds of being, we are confronted, nevertheless, with some curious problems. For the sake of illustration let us recur to our sensation of blue and its physical concomitants which I am contemplating at the same time in my own brain. My sensation, so far as I can introspect it, is an exceedingly simple state, a bit of seemingly indivisible experience. My perception of the corresponding brainstate is an exceedingly complex series of activities capable by the proper devices of revealing the most intricate and diversified mechanisms. How can we make any sense out of the theory that my simple sensation is the *Ding an sich* of which my complex aggregate of brain-motions is the manifestation? So far as we can observe the behavior of our inner states, we find a succession of sensations, ideas and emotions

behaving in a fitful and hurly-burly fashion that contrasts strangely with the orderly processes of external nature. Yet the view we have been considering makes the order of nature depend upon a world of being which, so far as we have direct cognizance of it in the fleeting behavior of our own mental states, seems almost the antithesis of its assumed counterpart.

In order to arrive at a more satisfying viewpoint we might assume that our mental states that seem so simple and undecomposable are really made up of innumerable bits corresponding to the events of external nature. A thoroughgoing psychophysical parallelism would of course inevitably involve this assumption. We would thus be led to an atomistic theory of mental life corresponding to our atomistic conception of nature, to say nothing of extending the parallel to electrons, protons, cosmic rays, or other inventions of the modern physicist. The metaphysician need not balk at this, extravagant as it may appear to the philosophically uninitiated. If it gives us a consistent viewpoint it has its sufficient justification, pragmatically at least. Doubtless no one would ever have thought of an atomistic conception of mind had it not been for the development of an atomistic conception of nature. Possibly it may sometime become necessary in order to give a really rational account of the vagaries of our mental states. If so, we should be doing what has been done in explaining the events of nature, whose phenomena of mountains, clouds, stars, and living creatures, give us no inkling of electrons and quanta of energy. Only after long efforts to explain the order of nature have these minute units been hypothesized which the critical realist must assume stand for entities independent of our perceptions and our thoughts.

An atomistic interpretation of mind has been defended by several psychologists, notably by Spencer who writes of "the possibility that the multitudinous forms of Mind known as different feelings may be composed of simpler units of feeling, and even of units fundamentally of one kind", and who states also that mind may be "resolvable into nervous shocks; and that these nervous shocks answer to the waves of molecular motions that traverse nerves and nerve-centers". A wave of molecular motion, however, is a very complex affair, as interpreted by modern physics; hence Spencer's unit of mental composition would have to be broken up

into still simpler constituents. What changes the conception of these constituents might be compelled to undergo as the result of future development in physics it would be hazardous to predict.

In hypothesizing that mental states are composed of simpler elements one is compelled to differ from the interpretation of William James, who, after presenting Spencer's arguments, subjects them to a searching criticism. For James the sound of a chord is psychologically as simple as the sound of any of its constituent notes; the fusion or integration being an affair of the nervous processes concerned and not of sensations of tone. For reasons which I cannot enter upon here I am not impressed with the cogency of James' reasoning, and his position seems to be largely responsible for the fact that, with all his acute discussion of the subject, he has failed to develop any clearly intelligible theory of how mind and body are related. "We must", he says "ask ourselves whether, after all, the ascertainment of a blank unmediated correspondence, term for term, of the succession of states of consciousness with the succession of total brain-processes, be not the simplest psychophysical formula, and the last word of a philosophy which contents itself with verifiable laws and seeks only to be clear, and to avoid unsafe hypotheses." Such a position, James admits, is "only a provisional halting-place and things must some day be more thoroughly thought out". But instead of taking refuge in metaphysical devices which he compares to "spiritual chloroform", he declares: "Better live on the ragged edge, better gnaw the file forever!" It is clear that having rejected the doctrine of the soul as useless for the purpose of the psychologist and also an atomistic view of the make-up of mind, James finds himself in a quandary in regard to the problem to which he has devoted so much able discussion.

If we endeavor to conceive of mind and body as related in a way that will give a consistent interpretation of the details of their connection, and enable us to understand how the evolution of mind can take place in a purely continuous manner in a universe that may once have consisted of scattered atoms, it will be difficult to escape positing some sort of conscious correlate of all the activities of natural objects, be they brains or electrons. How otherwise we can explain mental evolution as a perfectly continuous process

going along with parallel developments in nature is not apparent. This difficulty may not trouble the emergent evolutionist. What he usually does is to conceive of the phenomenal system of nature as a selfsubsistent reality undergoing a fairly orderly development up to a point at which organisms reach a certain degree of complexity, when consciousness suddenly and quite mysteriously pops into existence. If, however, we consider consciousness of some sort as the reality of which the phenomena constituting nature are the representative experiences in our minds, then the origin of consciousness becomes no longer a problem. The elements of consciousness being the only reality outside the veil of natural phenomena, the beginnings of mind recognizable as such may be regarded simply as an event in a perfectly continuous evolutionary process, a process symbolized by organic evolution in nature. This mental evolution is, of course, the only evolution that really goes on outside of ourselves. Our only clue to the evolution of the real ejective order is yielded by our intellectual construct of the evolution of nature. When we have finally arrived at a consistent interpretation of nature in which all of our experiences of natural phenomena fit and find their logical explanation, we would consider this system as a sort of reflection, or symbolic representation, of the ejective reality outside of us. The truth of our hypotheses concerning nature could therefore be measured by their correspondence with the ejective order, although for us, except for the very limited extent to which we might straddle over both sides of reality, the only test of truth that it is possible to apply is the pragmatic one of consistency.

Our discussion has led us to a sort of atomistic conception of both nature and the ejective order to which nature corresponds and of which our private conscious states are integral parts. We are organized parts of a stream not completely isolated from one another, but able to cognize one another's states, not directly, but through the medium of nature, which among other things subserves the function of a sort of language.

If our states of awareness are really compounds, as we might be led to infer from analogy with the physical world, the unity of consciousness would seem to present an insuperable difficulty. I am not sure that any other standpoint is in any better position, but

it may be pertinent to remark that the elements of the physical world may not be as discrete as we are in the habit of picturing them. Certainly they are not completely independent. With the modification of our older concepts of matter, mass, force, and their relation to the space-time manifold, we are quite uncertain to what sort of a picture, if any, of the ultimate units of the physical world we may finally be led. Physicists have framed a picture of these units mainly in terms of visual perceptions instead of sounds, tastes, and smells, although it might be quite as logical to construe physical reality in terms of the latter modes of sensory experience. But difficult as it is to arrive at a satisfactory picture of what we may call micro-reality on its physical side, the difficulties are much greater when we attempt a corresponding task with the ejective order. If we regard the seemingly simple sensation of blueness as the reality of which the complex molecular and atomic activity of a lot of brain-cells is the manifestation, a more incongruous juxtaposition can scarcely be imagined. If, however, my sensation of blueness is a highly complex phenomenon resolvable into innumerable units each related to units of physical nature, the incongruity may not be so great as it first appeared. It is at least conceivable that when we arrive at a scientifically satisfactory picture of the micro-reality of the physical and ejective worlds, the kind of units in terms of which we can interpret them may not be of a fundamentally different character. If so, the fact that a causal relation exists between my sensations and my brain-image, when both are analysed into their ultimate constituent elements, may present no greater difficulty of comprehension than a causal sequence in the physical world.

The relation of mind and body then is one concerned with units not accessible to direct perception. The essential distinctness of mind and body as expressed in the dual conception inherited from Descartes really begs the question. What is experienced, whether physical or mental, is essentially the same kind of reality. For the purposes of psychology as for those of physics and chemistry it may be necessary to consider the phenomena dealt with as due to units, although for the purposes of both sciences they may have to be considered as only partially discrete. Entirely discrete and independent units would be in much the same situation as Leibnizian

monads. How it is possible for atoms and their constituents to affect one another is a puzzling problem which has led to the postulation of action at a distance, force, and the distortion of space. Probably most physicists would admit their inability to form a consistent conception of the behavior of the elements into which the physical world may be resolvable. The situation is much worse for the psychologist who essays a similar task. In making such attempts it must be borne in mind that everything which comes to us is highly elaborated in the process of perception. A visual impression is not a mere sensation of sight; it has size, shape, and distance, all of which seem to be immediately given, but are not. A sound is not a mere sound, but the clanging of a church bell in the nearby village. These attributes result from mental activities on the subconscious plane that are quite outside of my ken. I postulate them for the purpose of psychological explanation just as I postulate atoms and electric waves to explain the order of my physical perceptions. Both in psychology and in physics we make a lot of assumptions about unperceived things and processes in order to make sense out of what is perceived. In the interests of psychology we may be led to postulate a sort of atomism analogous to that of physics, but it is highly improbable that such a procedure will yield as remarkable results for psychology as it has for the physical sciences. If there be ejective parallels to the electrons, electric waves, the cosmic rays, etc., of the physicists, the psychologist will probably never be able to do anything with them of real value to his science. So far as introspective study is concerned, he will not be able, except in imagination, to get back of perceptions concocted and served up to him from the depths of his unconscious being. What we take to be immediate experience may be highly mediate. We deal with end-results whether we contemplate outer nature or the flights of our own fancy.

If we adopt an atomistic conception of both mind and body we must assume that the constituents into which we resolve both worlds are beyond the possibility of actual perception. The specific relationships of these constituents belong to a realm which we can explore only through reason. We make hypotheses as to the nature of these constituents both for the purposes of physics and for those of psychology, and test them by their consistency with ob-

served facts. This is all we can do. As to the constituents, in both fields we may be justified in postulating the attribute of activity whatever other common attributes they may possess. We are of course pushing our body-mind problem into an unknown world whose constituents we are free to conceive of in any way that may give us a logical interpretation of observed facts. When we resolve the phenomena of physics and psychology into units of activity that will ultimately prove satisfactory for these sciences, will we find that these units will ultimately prove to be of the same kind? I cannot see that such a speculative possibility can be disproved. And in addition to this dubious merit it has the obvious advantage of rendering intelligible the observed relationship of mind and body. But it would be hazardous to deny the possibility of other interpretations. In this *terra incognita* in which the solution of the mind-body problem must be sought, speculative ingenuity may find some other solution that more adequately meets available tests of truth.

Whatever proves to be the precise nature of their association, we may conceive of mind and body as of essentially the same fundamental nature. In the general stream of consciousness individual minds may be viewed as centers of activity which become more highly organized in the course of evolution. During early stages the distinction of subject and object, if made at all, is but vague and indefinite. In the simple consciousness of a sea-anemone one would hardly expect there would be any clearly defined reference of its states to either subject or object; only in a highly developed consciousness would there be a world of outer objects set off in contrast with inner feelings. For such a creature there is yet no Nature. Nature even to the savage is quite different from Nature to a modern scientist. It is continually being reconstructed to make it conform more completely to the fuller experiences made possible by scientific discoveries and inventions.

The order of nature as it appears to individual minds may be viewed as having its basis in an ejective order, a small part of which exists as a personal ego. Individual minds are more or less integrated parts of the general stream affected by the larger part outside them in such a way as to produce the experiences they refer to the outer world. But the outer and inner worlds are a

continuous whole with occasionally the same states functioning in both, and they are continuous with the ejective stream in which both are included. The relation of mind and body, therefore, is not one between two disparate entities. It is a relation essentially like the connection between two states of my mind.

To illustrate this point of view, individual minds may be compared to vortices in the general stream having their small beginnings, gradual growth, and final dissolution. They are affected by things in the general stream which bump into them more or less regularly and produce the experiences referred to an external reality. The regularity of these impacts forms the basis for the postulated order of nature in the more highly developed vortices. These vortices, large and small, bump into one another like other more or less integrated parts of the general stream and produce the experiences referred to other minds and their associated bodies. In the simpler vortices impacts are not distinguished from internally generated changes. Only in the more highly developed ones are the experiences classified and referred to different orderly systems. It is Nature that has emerged from consciousness (or its simpler constituents), and not the reverse. Some time in the future Nature as we know it will disappear along with individual minds, leaving only the ejective order.

In the foregoing statement I have ventured with perhaps an unjustifiable degree of speculative intrepidity to present a more or less consistent interpretation of the relation of physical and psychical phenomena. Of course it may be all wrong. Having a profound distrust of philosophical speculation in general, I cannot regard it with any great degree of seriousness. But at least it avoids some of the difficulties of a number of other interpretations. I cannot help being haunted with the suspicion that I have been dealing with a problem concerning which the constitution of our minds may forever preclude our arriving at a true solution. The nature of our difficulty may turn out to be essentially like that of the man who attempted to lift himself over a fence by his bootstraps. But again our problem may not be fundamentally different from any other general problem in natural science. And possibly the view here presented may be an approach to a true solution.

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DISCUSSION

CAUSALITY AND EMERGENCE[1]

IT IS the task of the philosophy of to-day", Mead writes, "to bring into congruence with each other this universality of determination which is the text of modern science, and the emergence of the novel which belongs not only to the experience of human social organisms, but is found also in a nature which science and the philosophy that has followed it have separated from human nature."[2] In this paper, I wish to discuss certain aspects of the problem here stated by Mead, then to mention certain implications which seem to me to follow from this discussion.

I

The most obvious philosophical importance of the principle of emergence, as I see it, is that it brings into intellectual prominence factors in the universe that actually have been present and in their way important all the time, namely, individuality and quality. In modern scientific causal analysis, both of these factors have tended to be lost from view. The general causal principle itself instructs us to interpret any given individual in terms of something else, *viz.* its antecedents. E is to be understood in terms of C. The scientific version of the causal principle in its usual form seeks to carry this procedure further.[3] It reduces that which is to be explained to quantities, then interprets these quantities as redistributions according to law of other, usually of prior existing, quantities. Quality is replaced by quantity, then interpreted as the expression of quantity at another, usually at a prior, moment. On the scientific causal analysis carried to its ideal fulfilment, the cosmos becomes an energy-tautology, and cosmic order becomes *A is A*.

I shall not enter into the problem whether the scientific version of causality in its strictest quantitative sense is or is not defensible. Of late this has been much debated, and it can be very profitably debated.[4] But such a debate would take us too far from the path I wish to follow. Whether strict quantitative causal determination must be given up, whether its difficulties are temporary or permanent, whether statistical causality alone can be maintained: these alternatives are indifferent to our point. All of them involve the same general procedure:

[1] Read at a symposium on *Causality and Cosmic Order* at the forty-second annual meeting of the Western Division of the American Philosophical Association, Butler University, Indianapolis, April 24-26, 1941.

[2] G. H. Mead, *The Philosophy of the Present* 14.

[3] Bertrand Russell, "On the Notion of Cause", *Aris. Soc. Proc.*, 1912-13, p. 15, reprinted in *Mysticism and Logic;* Victor Lenzen, *Physical Theory* 290.

[4] *Cf.* my *Structure and Reality* 164-203.

the reduction of quality to quantity, and the reduction by mathematical law of quantity at a moment or at a time-stretch to quantity at some other moment or time-stretch. In this sense all of the alternatives here minimize the quality and the discontinuous individuality of the moment. As a forceful reminder that more centralized recognition must be given to quality and discontinuous individuality, the principle of emergence, as it seems to me, has its most obvious and great philosophical significance.

Mead himself does not always seem to realize fully this fundamental point. Throughout *The Philosophy of the Present,* it is true, he reiterates the importance of the emergent, the novel, the individual, that which is discontinuous with the past. Indeed, he makes it the defining content of the present, that which makes the present not mere abstract passage but concrete fact,[5] and the present is for him of course the locus and epitome of the real. Nevertheless, he also seems to cherish an overwhelmingly strong regard for modern classical research science with its demands for causal reduction. In accordance with this, he contends indeed that the emergent must always be written down into antecedents if rationality and science are to be achieved. It is true that we revise the past to make possible such a reduction. But the emergent becomes rational, or intellectually respectable, Mead here contends, only when it ceases to be emergent through the agency of causal reduction. This reduction of the emergent is the way in which he solves the problem cited at the beginning of this paper. "The present in which the emergent appears accepts that which is novel as an essential part of the universe", he writes, "and from that standpoint rewrites the past. The emergent then ceases to be an emergent and follows from the past which has replaced the former past."[6] If anything is to be recognized as an essential part of the universe within the canons of modern research science, Mead evidently believes, its past must be rewritten so that this something is a resultant, not an emergent. So far as one can see, his reason for thus cutting down the emergent, and in this way effecting the congruence between emergence and universal determination which he describes as the task of philosophy today, is that the novel, the discontinuous, the emergent, in this region of his thought are after all of less importance than the traditional purposes of modern research science as he understands them.

In Mead, as I see it, then, there is a conflict between unreserved recognition of the emergent, the novel, the individual, that which is discontinuous with the past, as a definitive or ultimate element of the real, and the traditional demands of modern research science to reduce

[5] *The Philosophy of the Present* 23.
[6] *Op. cit.* 11.

individuality and quality to antecedents, that is, to make them derivative elements of the real.

Now, if we must choose today between these alternatives, and in a certain sense we clearly must, I should have no hesitation in choosing the first and in taking the emergent and novel not as something to be reduced by rewriting the past, but as something irreducible and as evidence that quality and individuality are, so far forth, underivative ingredients of the real. Why should the goal of all knowledge be confined within the narrow limits of causal reduction? It seems to me that any empirical survey of situations confronting knowers indicates the presence of quality as well as quantity, of individuality as well as connectedness. Moreover, each such situation as it unfolds is not a bare repetition or a mere quantitative duplication of the pre-existent. It also exhibits its own quality and individuality as it continues, and is specifically different. Indeed, empirically causality always operates within situations exhibiting individuality and differentiating quality. You may push your thumb aganst a piece of soft clay. But a piece of soft clay is not a piece of hard granite, it is specifically different. Moreover, although the outcome, the indenture of the clay, is an effect of the cause, the pressure of your thumb, and may even contain in equal (potential) amount the energy of the cause, you do not have in this outcome merely the pre-existent all over again. The dent did not preexist in the soft clay. The outcome for all of its affinities with the past is a new situation with its own imminent individuality and with qualities peculiar to it.

Now, emergence, I wish to suggest, is simply a new way of calling attention to this underpinning of individuality and quality within which causality always operates. The spectacular cases of emergence have been furnished by chemistry and biology. But the appearance of novel properties in chemical compounds and of mutations in biological agents is merely very vivid evidence of a much more widespread fact. This basic fact I believe to be this, that the members of causal situations *always* possess immanent organization or structure as well as transeunt causal connection or structure. They have individuality and multiple qualities manifesting this immanent individuality, as well as linkage with antecedents and consequents. Moreover, this individuality and quality are with them all the time. They are permanent ingredients. And the sign of their permanence, of their undiminished being through time, is the emergence of the novel. This emergence is testimony that the individual and the qualitative are not eradicated by the operation of causes, but that these factors are as much present after the operation of causes as they plainly were before this operation. Upon incidence of the cause, the pressure of the thumb, the affected members of the situation, such as the individual piece of soft clay, reorganize.

But they pass from one immanent structure grounding individuality and quality of the moment to another immanent structure grounding individuality and quality of the new moment (emergent). An immanent organization of each member is present throughout and with this immanent unity go undiminished individuality and distinctive quality. Accordingly, emergence, or the appearance of novel quality and individuality, is merely persistent evidence that quality and individuality with their groundwork of immanent structure, far from being eradicated by causal determination, are ineradicably basic factors of situations confronting our cognition. In view of this, the solution of the problem cited at the beginning from Mead would seem to lie not in writing down the emergent into a non-emergent, making it a causal resultant, as Mead does, but, first of all, in recognizing the ubiquitous onesidedness of the causal analysis, and the incorrigible limitations of any theory of knowledge which confines its ideals to what Mead takes to be the traditional canons of modern research science. Once this recognition is made, the problem of a congruence between emergence and universal scientific causal determination would become a relatively simple affair. Its solution would consist of understanding that the two principles have to do with two equally permanent, diverse, and irreducible aspects of every matter-of-fact situation confronting knowers, what might be called the immanent and the transeunt aspects, or the individual-qualitative and the universal-quantitative aspects, emergence being taken as a sign of the persistence of the individual-qualitative aspect. The congruence of the two principles would then be seen to reside in their co-necessity for any concrete matter-of-fact analysis.[7] Mead's failure to realize that the traditional scientific causal analysis, successful as it has been in modern research science, is at best only a partial account of the matter-of-fact situations everywhere confronting knowers is, I believe, at the root of his shifting and unsatisfactory attitude towards the individual and the emergent, now accepting them as definitive, now insisting that they be understood as derivative and that the emergent be written off as a non-emergent.

II

It may be asked: What is to be gained for knowledge by recognizing, besides the traditional principle of causal reduction, a principle of cosmic order such as emergence and with this the irreducibility of individuality and quality? This is a very big question, but I will state a few of the fundamental things which seem to me to follow from such a recognition.

First, this recognition helps to set straight the account in modern cosmology. At the outset of modern philosophical thought, objective

[7] *Structure and Reality* 67-69, 207-212.

quality and individuality were conceived as apparent or subjective, to be reduced to sensations or to imaginative groupings of sensations. The sensible qualities and the commonsense individuality of the piece of wax made famous by Descartes were so conceived and so reduced. On this reductive program, mind became the home and source of quality and individuality. So much did this latter belief become axiomatic with later modern thought that when quality and individuality were held to be objective and real, as with Leibniz, Hegel, Bergson, and Whitehead, the usual turn in cosmology was to spiritualize the cosmos, and in some cases to advocate a panpsychism. Such a position is not only a natural reaction to the opposite extreme of making quality and individuality merely apparent and subjective, but, more important still, it is predicated on its opposite. It assumes that quality and individuality spell mind and point to mind, which was the basis of the early modern reductive program. Suppose, however, we recognize initially that quality and individuality are as ultimate and irreducible as quantity and causal law, that they are not derivative from mind and have no more reference to subjectivity and mind than do quantity and causal law. This is substantially the position we have set forth. Then the easy swing to romantic idealism which was made possible by the reductive program of early modern thought is eliminated at a stroke. Indeed, reflecting on what we have said in preceding pages, it would appear that the basic factor in situations, if we must look for a basic factor, is neither quantitative causal law, nor qualitative individualizing mind, nor both. Neither naturalism, nor idealism, nor dualism, is implied. The basic factor is structure: the structure or organization immanent in each of the things in causal situations (*e.g.*, the thumb and the piece of clay) and constituting the principle of its unity or individuality, and the transeunt structure or organization connecting the diverse things and events in such situations, *e.g.*, the quantitative causal relation connecting the pressure of the thumb and the dent of the clay. As to mind on such a position, being no longer synonymous with quality and individuality it would have to be taken as we find it. So taken, I believe, mind would be found to be merely one complex quality amongst many, and a not particularly widespread quality compared with many, *e.g.*, compared with color or solubility. Mind would be found to be one complex manifestation of individuality appearing merely in beings who possessed a certain type of highgrade immanent structure.[8]

Second, our position has its methodological implications. If quality and individuality are ingredients of the cosmos as well grounded as quantity and causal law, and if emergence is an admissible principle of cosmic order, some revision of what we should ask and of what we may seek in inquiry seems required. Thus it would seem to be a

[8] *Structure and Reality* 231 *ff.*

fantastic simplification to hope to be able to reduce everything to pointer-readings. I do not mean to disparage the quantitative approach. It is certainly a part of proper methodology. On this I think all agree. But if what we have said is correct, this approach offers no possibility of covering the ground completely, and this fact must be reckoned with in scientific methodology, and in methodology generally. The specific implications of this for methodology cannot be described here in detail. But I would like to suggest very tentatively two general lines which I believe they would follow. First, procedures defining qualitative comparisons between individuals would be recognized as on a par with procedures defining quantitative equivalence. For example, qualitative descriptions such as the characteristic non-quantitative and non-analytical generalizations of ethics, aesthetics, philosophy of science, and of the philosophical and social studies generally, *at their best* would be recognized as on a par with equations.[9] I do not mean that the qualitative and the quantitative would be recognized as equal in quantitative matters. Of course the quantitative would be considered superior here and in plainly quantitative problems would have complete right of way. But, if what we have said is correct, then in the total body of knowledge the qualitative and the quantitative would both be recognized as indispensable and irreducible. Neither would be disparaged as ineradicably vague and always provisional, to be superseded by the other with the advance of insight. Both would be recognized as necessary to complete knowledge, and in this sense equal in cognitive eminence. The other line of revision would be in the standards of methodology. 'Accuracy', 'adequacy', 'verification', 'testability', etc., would be given reformulation. A broader basis of proof than statistics and pointer-readings would have to be admitted, and with this would come some redefinition of what I believe is often taken to be the ideal in all of these matters.

Third, the position we have taken would also require recasting conceptions of the subject-matter of the sciences. This is particularly apparent as we go up the scale of the sciences. In the physical sciences, the quantitative approach seems overwhelmingly effective. It has its limitations, especially when we consider physical objects in their individuality and concreteness. But in descriptive physical science the research worker is little concerned with the individuality of his electrons and chemical compounds. They are too pervasive, too universal in nature, too void also of the type of individuality close to man, for him to treat them as other than units in a reckoning. Moreover, since the quantitative approach gives the chief information needed for

[9] It is relevant to notice that those who advocate most emphatically the quantitative approach never state their belief in quantitative terms, although this belief should be theoretically the most fundamental of all beliefs for them, since it defines the claims of all quantitative procedure.

utilizing physical phenomena as causal links and as means to our ends, and since the prevailing attitude towards physical phenomena in our civilization is that of exploitation, the quantitative results of the physical sciences win overwhelming approval and seem to be all that need be said on physical matters. Of course, from a philosophical standpoint such as we have taken, this would not be the case. The quantitative findings would be held to rest upon an underpinning of quality and individuality. But for the ordinary abstract procedures of laboratory physics and chemistry, especially those with pragmatic orientation, this philosophical observation has little relevance, although it does have some relevance within physical science as a whole. For example, the second law of thermodynamics and the historical phases of geography and geology call attention to the presence of qualitative diversity and individuality at different times and places.

In the biological sciences, the qualitative approach seems more appropriate. Much that is organic has a significance for man similar to the physical—as means. In such regions the quantitative approach seems overwhelmingly preferable as the approach to emphasize. But living things are less simple individuals and less pervasive than physical things, and many of their qualities are close to those of man. Thus some living beings seem to have sensitivity, feeling, even intelligence of a sort, and all of them have a history with birth, death, and the novelties of development in between. This makes their individuality and quality more vivid and more noteworthy, if not more actual, than that of physical things. Accordingly, it is not surprising that in the history of modern thought the principle of evolution and emergence as well as the principle of organism and 'organization' (immanent individuality) should have been more profoundly associated with phenomena of the biological realm, and that the science of biology should have paid elaborate deference to the qualities of living things. I am not suggesting that biology be resolved, for example, into a merely qualitative classification and a merely qualitative description of the emergence or development of the diverse individual organisms and species from the simplest to man. But it is germane to our theme to say here that this qualitative classification and description, however overlaid with quantitative findings, has every right to be considered to be a part of biology as a science, and not as just a tentative and prescientific synopsis to be removed from biological annals later and replaced by a set of scientific causal equations.

In the social sciences, the hope of many is still pinned upon psychological measurements and group statistics. Let us trust that they find out something in this way. But it seems obvious that individuality and quality, which are present in both the physical and the animate realms, are not only present but extraordinarily important in the human social realm, and that we cannot hope to get what we want

here, namely, insight into the beings we are dealing with, merely by dodging behind psychological constants and measured social uniformities. We must reckon primarily, it seems to me, with the individuality and qualities of human beings. One of these qualities, central as I believe, is the purposiveness possessed by individual human beings, and I would suggest that in the clarification of human purposes, in defining their qualitative variety and in seeing them in their settings and relations, we are likely to get nearer to the heart of what we want, nearer to the insight which is satisfactory to us here, than merely in piling up laboratory measurements and social statistics. I do not mean that we should discontinue this latter pursuit, for, if what we have said is correct, it is certainly relevant, since according to our account the quantitative as well as the qualitative approach, the causal as well as the emergent principle, are relevant to any concrete situation. But I would suggest that we see the quantitative approach here in perspective. So far as we can tell, physical things, for example, seem to have no inner purposiveness. This is one reason, I believe, why the external quantitative approach with them seems very adequate. But human beings, I believe we can be very sure, do have inner purposiveness. Indeed, their purposes seem to be the center of what they are as distinctively human beings. Hence it would appear to be both the necessity and the strategy of inquiry concerned with such beings to concentrate on these qualitative elements, and to bring to clarification their internal natures and manifold relations. Indeed, I think that in the history of modern thought this task has never been more urgent and never more in a position to be successful than it is at present, and that the great opportunity before the intellectual worker of our time lies in the clarification of the nature and relations of the purposes of man in art, science, economics, politics, and the other phases of human social life.

Fourth and finally, returning to cosmology, our position regarding causality has a central implication for the general nature of cosmic order. In certain respects, causality typifies transeunt relationality. In certain respects, it is a typical way in which individuals are linked with other such individuals. In causal situations, what occurs (*e.g.*, the indenture of the soft clay) derives existence from something else (*e.g.*, the pressing of the thumb against the clay). The ongoing being of one individual (your thumb) enters into the ongoing being of another individual (the piece of clay), even though the scientific causal analysis tends to lose sight of both individuals. Now what is of general note here is that in the causal situation transeunt structure is not an external form or scaffolding that can be literally lifted off atomic individuals. It is really a way in which individuals with immanent structure enter into the ongoing existence of other such individuals. Causal connection is not a Bradleian connection that does not

connect, but a way in which one individual enters into another within the framework of the latter's persistent individuality. The cosmological picture which arises from this fact is that of a plurality of individuals with immanent organization passing to redistributed quantity and novel structure and quality by virtue of connection with other such individuals. The plural individuals have immanent structure, but also transeunt structure, which involves, often vividly in causal transactions, reorganization of their immanent structure as it persists within the time-process. Causality and emergence co-operate. This is a highly simplified version of the cosmological situation, intended to suggest no more than that basic members of cosmic order are individuals, and that transeunt relations, such as causality, are not loose scaffoldings of atomic entities external to the terms related. The transeunt framework of cosmic order, typified by causality, exhibits an anti-atomic internality.[10] Such is the general cosmological picture suggested. To suggest more, especially to indicate the interior complexity and selfdeterminacy of the member individuals, the processes in which they are involved, and the fuller set of transeunt relations which they possess, would require a complete detailed cosmology.

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PHILOSOPHY AS THEORY OF CRITICISM

I

THE least satisfactory chapter in an "introduction" to philosophy is usually the one in which the author attempts a definition of the subject. The most difficult and embarrassing question that a layman can address to a teacher of philosophy is the perennial enquiry: "Now, just what is philosophy?" The most notorious fact about philosophers in the popular mind is, perhaps, that they disagree among themselves. And yet disagreement cannot be absolute; it can arise only with respect to a common ground which affords some basis for disagreement. What is it, in the case of philosophy? We say that ethics, logic, aesthetics, etc., are "divisions" of philosophy. What is the large enquiry of which they are divisions? We speak of a philosophy of religion, a philosophy of science, a philosophy of education, a philosophy of law, a philosophy of the state, a philosophy of history, and even, in our more expansive moments, of a philosophy of life. What idea, common to these different cases, is referred to by the phrase "a philosophy of"? We teach something which we call the history of philosophy. What principle will define the tradition of which the history of philosophy is the history? We distinguish, in the history of science, between technical and philosophical "revolutions". The

[10] *Structure and Reality* 89-97, 244 *ff.*

invention of the telescope or the microscope might be cited as examples of the former; the hypotheses advanced by Copernicus or Darwin or Freud or Einstein might be cited as examples of the latter. Under what circumstances may a revolution in scientific thought be described as "philosophical"? We distinguish, within the field of general literature, between those authors who are "philosophical" and those who are not; *e.g.*, between Carlyle, Shelley, or Aldous Huxley, and Macaulay, Keats, or Anthony Trollope. Beyond the fact that their writings are more controversial and, perhaps, more difficult to understand, what are we imputing to the first group, and denying to the second group? To gather these questions into one, What is philosophy? How does it differ, *e.g.*, from science or art?

The general position here offered for consideration is that philosophy is the effort to formulate a theory of criticism. To clarify this notion, I shall attempt to do three things: to explain what is intended by a "theory" of criticism; to indicate the sort of problems which confront one who seeks to develop a theory of criticism; and to describe the difficulty of "method" which attends enquiry and decision in the case of philosophical problems.

II

In the phrase "philosophy as theory of criticism" the word "criticism" is used to include the notion of justification. Ordinarily it is not so used. Ordinarily it is distinguished from the word "justification" as being the name of an almost opposite procedure. Ordinarily, we should distinguish sharply between criticizing a belief or an act, and justifying it. Originally, it would seem, this was not so. The word "criticism" is derived, through a Greek word meaning "judge", from a Greek word meaning "see". Etymologically, to criticize is to judge or to see; criticizing is judging or seeing. In this older, and more inclusive, sense of the term, criticism includes both the notion of "finding fault with", and the notion of "justifying". Today, these two notions meet, perhaps, in the word "evaluation". We may evaluate and find fault with, or we may evaluate and justify. I am proposing the term "criticism" in its older and more inclusive sense. A theory of criticism will mean, hence, a theory of judgment or evaluation. Where, for purposes of clarity, it is necessary to follow contemporary usage, and distinguish between criticism and justification, the context will reveal which meaning is intended.

What, then, is meant by criticism and by a theory of criticism? We may distinguish between an object and a criticism of that object. Let the object be a belief, an act, a poem, or what you will. It may be criticized or justified. In the case of a belief, we may say "It is true", or "It is false". In the case of an act, we may say "It is right", or "It is wrong". In the case of a poem, we may say "It is beautiful", or "It

is ugly". Beliefs, acts, poems, are not the only possible objects of criticism; nor are these the only possible criticisms that can be made of such objects. But they serve to illustrate the elementary distinction between an object and a criticism of that object.

We may proceed further and distinguish between a criticism and a theory of that criticism. Let the criticism be "The belief is false", or "The belief is improbable". Such criticisms may be accepted or rejected. In either case, questions arise which lead further into what is implied by the criticism. The attempt to deal with these questions forces one gradually to formulate a theory about such criticisms.

The transition from a criticism to a theory of criticism occurs most easily and frequently when some criticism we have made is challenged. (This ease and frequency is a psychological matter and, therefore, irrelevant to the connexion between criticism and a theory of criticism; but a reference to it may enable us to recognize the distinction and the transition.) Suppose we have criticized a belief as false. Our criticism is challenged. It may be merely a question of citing evidence; in which case nothing of a philosophical nature is introduced. But it might, as we say, "go deeper" than that. Our evidence might be denied on the ground that all "evidence" is mere rationalization. Our use of the term "false" might be denied on the grounds that no belief can be known to be false; that more or less probability is the only thing that can be ascribed to any belief. It might be that we propose an "appeal to experience", whereas our opponent will admit only an "appeal to reason", or, perhaps, only an "appeal to revelation". We might be challenged to explain what we mean by our statement that the belief is false. This would shift the problem from criticism to definition; but, inasmuch as our definition might be rejected, we should be back to a question of criticism. It might be urged that belief is an attitude we take up with respect to a proposition; that attitudes are neither true nor false; that only propositions (in which we believe or disbelieve) may be referred to as true or false. And so on.

Reflection upon these and other problems raised by our original remark that a particular belief was false, might lead us to sort them out, to ask if there were more of them, and to enquire into the grounds upon which such disputes could be settled. In short, we might find ourselves attempting to formulate a theory of logical criticism; that is, an account of logical criticism which would enable us to explain and justify our original remark that a particular belief was false.

The problems which beset the attempt to explain and justify a logical criticism are not, all of them, peculiar in principle to logical criticism. Similar problems arise out of other sorts of criticism, *e.g.*, ethical or aesthetic. The fact that there are different sorts of criticism, each reaching back into a theory which explains and justifies that particular sort, leads one to ask whether there may not be a

general theory of criticism of which each particular sort is a special case. With this notion of a general theory of criticism, over and above special theories of particular sorts of criticism, we are brought to the conception which is intended by the phrase "philosophy as theory of criticism". If it were worked out, it would disclose the nature of philosophy in general, as well as its particular divisions.

If philosophy is, in the sense explained above, the attempt to formulate a theory of criticism, we may move on to ask after the problems which define its field. It seems clear to me that a general theory of criticism will have to address itself to at least four problems. There are probably others, but these are typical.

The first problem is to analyse and, perhaps, define the notion of criticism. The notion needs clarification. What is criticism? When we criticize, what is it, precisely, we are doing? We may distinguish readily enough between criticism and description. What is the difference? The two, it seems, are never the same; yet they are intimately and delicately related. When, *e.g.*, we say of an act that it is wrong, we appear to be saying something of an entirely different nature than when we say that it is widely practised or difficult to do or done only by persons of a certain group. When, again, we say of a belief that it is true, we appear to be saying something of an entirely different nature than when we say that it is widely held, or difficult to state, or entertained only by members of a certain group. It is clear, then, that criticism is not the same as description. Wherein lies the difference? These and related questions soon confront the attempt to define the notion of criticism.

The second problem is to indicate the grounds on which propositions having to do with criticism can be asserted or denied, admitted or argued, proved or disproved. This is the problem of method in philosophy. It is an exceedingly baffling problem. It does not, so far as I can see, arise in any other field, *e.g.*, in mathematics or science. A mathematician, *e.g.*, may argue some proposition p, on the grounds that it does or does not violate the logical principle of excluded middle or identity or contradiction. A scientist, *e.g.*, may argue some proposition p, on the grounds that it does or does not violate the logical principle of induction or parsimony or the metaphysical principle of causality. But *qua* mathematician or scientist, neither will undertake to argue these principles of argument. The grounds upon which one can argue the principles of argument do not fall within any of the special fields within which argument may arise and proceed. In this respect, I believe, philosophy differs from other sorts of enquiries. It must deal with its own "problem of method"; and the difficulty which this problem presents arises out of the fact that its method must enable us to deal with problems in criticism; whereas their method need only enable us to deal with problems in description. The full force of

this difficulty, its baffling, elusive, yet inescapable nature, is readily disclosed by an evening's argument on the nature of criticism and its relation to description.

The third problem is to enumerate the conditions which would preclude the possibility of criticism; and to refute any propositions that assert or imply that these conditions are in fact the case. I believe that such "isms" as determinism, skepticism, subjectivism, dogmatism, relativism, if taken without qualification, would preclude the possibility of criticism arising. If any one of these beliefs is true, then there can be no criticism of anything by anyone. How do they operate to do this? Are they an exhaustive list of the beliefs which would preclude the possibility of criticism? How can they be refuted?

The fourth problem is to enumerate the sorts of criticism that there are, and to indicate the principle of division by which they are arrived at. We recognize logic, ethics, and aesthetics, as enquiries into different sorts of criticism. Are there other sorts? Taking "criticism" as a genus, upon what principle of division do we arrive at logical, ethical, and aesthetic criticism as species? Are there other species coordinate with these? Or are other sorts of criticism sub-species under these? What is the difference, *e.g.*, between a logical and an ethical criticism? Or between either of these and an aesthetic criticism? Does one sort of criticism differ from another by reason of the fact that each is directed at a different sort of object? Does a logical criticism differ from an ethical criticism by reason of the fact that it is directed at belief (one sort of object), whereas ethical criticism is directed at action (a different sort of object)?

The three problems cited thus far have reference to criticism in general. The fourth problem has reference to different sorts of criticism. Granted some principle upon which one sort of criticism may be distinguished from another, *e.g.*, logical from ethical, we may proceed to raise three further questions with respect to each sort of criticism.

The first is in regard to the proper object of a particular sort of criticism. By "object" I mean "thing referred to", or "thing criticized"; I do not mean "purpose". The point may be illustrated negatively. We might say: The distribution of color in a picture is not the proper object of a logical criticism; or the manner in which a man spells the words of the English language is not the proper object of an ethical criticism; or the fact that a prime number has no integral factors except itself and unity is not the proper object of an aesthetic criticism. The meaning of "proper object" is thus illustrated negatively. But it should be stated positively. This requirement poses a nice philosophical question: What is the proper object of a particular sort of criticism?

The second question is in regard to the principle of a particular sort of criticism. Within any particular sort of criticism we find positive and negative terms, *e.g.*, true-false within logical criticism, right-

wrong within ethical criticism, beautiful-ugly within aesthetic criticism. Within any particular sort of criticism, this antithesis implies what I am here calling the principle of that particular sort of criticism. What is the principle of logical criticism? That is, upon what principle do we draw the distinction between true and false? What is the principle of ethical criticism? What is the principle of aesthetic criticism? What is the principle of any other sort of criticism?

The third question is in regard to the terminology of a particular sort of criticism. Within any particular sort of criticism there are three classes of terms: descriptive, critical, and theoretical. Thus in ethical criticism the term "act" is descriptive; the term "right" is critical; and the term "hedonism" is theoretical. In logical criticism the term "belief" is descriptive; the term "true" is critical; and the term "empiricism" is theoretical. The terminology of any particular sort of criticism may be absorbed into this threefold classification. The first job is to collect and so classify them. The second job is to define them with as great a degree of precision as possible. The attempt to carry out this process of definition will disclose a third job connected with the terminology of any particular sort of criticism. What I mean is this: Within any particular sort of criticism, some terms appear to be derived or derivable from others. That is, given some, it appears possible to define others. Thus within logical criticism, given the critical term "true" one might define the critical term "valid" or the critical term "probable". Perhaps it might go the other way; that is irrelevant for the moment. The job is, within any particular sort of criticism, to show which terms are fundamental and which are derived.

The above four problems are typical. They are probably not exhaustive. But answers to them and similar problems would constitute a theory of criticism; and philosophy is the enquiry into such problems and their possible answers. Kant has it that there is no "philosophy", but only "philosophizing". His point might be stated thus: Philosophy is the activity whose aim is the formulation of a theory of criticism.

It is possible now to return to the first paragraph of this paper and formulate propositions suggested by the questions contained in it. The propositions will be along the lines suggested in the paragraphs which followed. Philosophy, we could say, is the attempt to formulate a theory of criticism. Logic, ethics, aesthetics, etc., are different divisions of philosophy in the sense that they are enquiries into the nature and conditions of different sorts of criticism. A "philosophy of" something, *e.g.*, religion or education, is an enquiry into the nature and conditions of criticism of religion or education. The history of philosophy is the story of the attempt to deal with the problem of criticism in one or other of its many aspects. A "philosophical" revolution in any universe of discourse, *e.g.*, science, is a revolution which concerns the nature and conditions of criticism in that universe

of discourse. A philosophical enquiry in any context is an enquiry into the nature and conditions of criticism in that context.

If philosophy is the theory of criticism, and its divisions are enquiries into particular sorts of criticism, then, one is constrained to ask, what about metaphysics? In an older day one would have added, what about natural theology? Are either of these, like logic or ethics, enquiries into the principles and problems of some particular sort of criticism? Can we speak of a "metaphysical criticism" in the sense that we can speak of a "logical criticism" or an "aesthetic criticism"? I believe not. I believe that propositions in metaphysics are descriptions, not criticisms. Idealism or materialism, *e.g.*, are descriptions of the ultimately real; not criticisms of it. Does this mean, then, that metaphysics is not a part of philosophy? This question is large and complicated, and would require a long paper to state even in its essentials. To cut the matter to a dogmatic assertion, I believe that metaphysics is a part of philosophy, but for a different reason and in a different sense than, *e.g.*, logic or ethics is a part of philosophy. The connexion is this: In trying to handle many of the problems of criticism, one is brought up against assertions about reality which, if true, would render criticism impossible. These assertions are descriptions, not criticisms. But they are peculiar among assertions in the respect that upon their truth or falsity may depend the possibility of criticism in general or of some particular sort of criticism. Where this is the case, they, or their refutations, form part of philosophy conceived as the theory of criticism. Where this is not the case, they would fall within some other universe of discourse, *e.g.*, mathematics or physics or psychology.

III

The most difficult problem in philosophy is the one of method. Its "field" and "problems", to use the language of the manuals, seem clear enough. Clarity does not attend the question of its "method". I have already touched on this matter; but it seems necessary to recur to it again in concluding.

It is easier to proceed by denials. What is ordinarily called "scientific method"—observation, hypothesis, deduction, verification—is obviously not what could be meant by "philosophical" method. The method by which a scientist deals with his problems will not yield any results when applied to philosophical problems. The reason for this is obscure; although the fact itself is patent enough to anyone who has argued for an hour over a typical philosophical problem. The obscurity is connected, I think, with the fundamental distinction between description and criticism. This distinction is illustrated by such sets of propositions as "The building is 100 feet high" and "The building is beautiful", or "The hypothesis is widely held" and "The hypothesis is highly probable", or "The act was done in haste" and "The act ought not to have

been done". The method by which we can deal with the first proposition in each of these sets will not help us to settle the second proposition in each of these sets, nor, what is more to my point, will it enable us to deal with the sort of problems that arise out of propositions of the second type.

The method by which a mathematician deals with his problems—postulation, definition, deduction—holds more promise at first glance. It sometimes seems to be the case that philosophy does employ just this method. But, I think, the distinction between description and criticism occurs here as it does in the contrast between natural science and philosophy. It is not easy to state this matter briefly and clearly. No element of "justification" occurs in a description. A method, therefore, which will enable one to deal with problems which beset the attempt to describe, is not a method for dealing with problems which beset the attempt to criticize.

The two preceding paragraphs amount to something like an admission of ignorance or incompetence. That is perhaps better than confusion. One claim, however, may be forestalled; the claim namely that the problem of "method" is an idle one in philosophy. Santayana says somewhere that there are no first principles of criticism; and elsewhere, that criticism is groundless pronouncement upon the better and the worse. It is clear that this cannot be. These are themselves criticisms. They are in a class with the remark that we ought to stop using the word "ought". They themselves give partial expression to a theory of criticism. It seems to me that the method proper to philosophy is the method which one would be forced to adopt if one undertook either to establish or to refute Santayana's claim.

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REVIEWS OF BOOKS

An Essay on Nature. By FREDERICK J. E. WOODBRIDGE. New York, Columbia University Press, 1940. Pp. xii, 352.

It is unusual in reading a book of philosophy to be seriously affected by the fact that the author is no longer alive. This was however my experience in reading this book. At the same time a sense of the author's presence, standing solidly on his feet, merriment, good will, irony, intellectual aloofness, critical disdain succeeding one another in his face, haunted the reading from beginning to end. That is not the kind of reading experience one naturally reduces to a book review.

But this is not in any case the kind of book to be reviewed. It is the kind to write to the author about, letting yourself go and speaking from the heart; expressing your joy in this, your surprise at that, your wonder that anyone could believe so and so, and communicating some of the keen satisfaction you take in so clear, direct, and graceful a style, and in the almost whimsical disregard of professional views and conventions. Moreover, you want to talk back, freely and frankly, without caring too much what you say; under the chandelier, as the saying is, instead of from the front porch to any and every passer-by in the street. It does not seem appropriate to undertake a review and I can not write a letter to the author. I shall therefore use the assigned space to touch upon a few things that might have had a place in either.

One quality of this *Essay* is too obvious to be overlooked—its maturity. No one, no matter how brilliant, who had not lived through the refreshing but over-simple and over-confident views of youth could have produced it. Year on year until the years were many, Professor Woodbridge had observed and pondered the ways of Nature with care, astuteness, indeed with something akin to affection. The present book, full of novel insights, deductions, inferences, fanciful and poetic interpretations, is the ripened fruit of this vigil and this wooing. He hoped to retain in it much of a certain sort of nonsense, and we read: "I confess . . . that I have thrown into the wastebasket many pages of nonsense so precious that I could not bear seeing it in print, but rejoiced to see the fire take it in flames to heaven" (320-21). It is this speculative "nonsense" which helps to give the book the flavor of maturity.

Equally obvious is the rejection of any and every scientific or philosophic theory "which contends that the ways and means of acquiring knowledge and the knowledge thereby acquired warrant the conclusion that the familiar scenes we explore are but data whereby we ascertain the character and the structure of a universe which somehow lies independently beyond and external to them" (v). Nature, the familiar visible, tangible, integrated, operative world, "that universal manuscript, the stars, the seasons, the spectacle of birth and

death, of cities and war, heaven and earth, the sea, and all that in them is, the setting of human history", this Nature "is not cognitively a symbol of anything" (16, 17).

And in Nature or nowhere are found knowledge, speech, time, space, teleology, ideas, morality, religion, and all other items of man's experience, though each in *her* vocabulary, to be translated into man's. This, among other things, is the message of four of the five chapters. Says Professor Woodbridge speaking of Nature at the end of these chapters: "I do not mean that she perceives, thinks, remembers, imagines, and pursues happiness, but I do mean that we are not deceived when we speak of her qualities, her places and times, her histories, her continuities, her promises and potencies, her predictable events, her teleology, her order, her linkages of pleasure and pain. So speaking is evidence of her discursive character, and our language is a translation of hers" (264). Personally, I find this attempt to look "as it were through an open door at Nature going on of herself" (44) pleasant and convincing, and I have no doubt that it will commend itself to intelligent laymen much more than the pattern of abstractions, the "alien universe", which we of the profession so persistently try to substitute.

Now, is knowledge of Nature sufficient for human needs? Perhaps if Professor Woodbridge were speaking for himself alone he would answer that it is. But he is writing as a philosopher considering the history of human striving and, consequently, he answers that it is not. Men are made to pursue knowledge and they are made to pursue happiness. "The fact is that the pursuit of knowledge apart from the pursuit of happiness has no justification whatever and eventually becomes meaningless" (268). And the search for happiness involves the supernatural, or as some one else might say, the ideal. The word supernatural is here preferred to the word ideal because the latter "tends to suppress the subordination of Nature involved" (336). That is to say, the pursuit of happiness in a world of indifferent circumstances, which is man's lot (279), means that some things are *confessed,* rather than *known* (280); in addition to "knowledge" there is "faith", the acknowledgment of the supernatural, and, in the end, a reaching out for an all-securing divinity. The most elusive part of the book is the chapter in which these matters are discussed. I cannot but wish that the author had been a little less detached.

These paragraphs are of course shamefully inadequate as a summary of a wise and provocative book. Unfortunately they must do. It is something of a puzzle why a philosopher who looked at the world and man's place in it as this author did, can refer to an outlook strikingly similar to his own, as "that philosophical excitement of a few years ago known as 'pragmatism'" (47). And I wish I could excuse his flinging off the remark: "such banalities as the utilitarian's great-

est good of the greatest number" (268), and knew why from the beginning to the end of the discussion there is no recognition of the fact that human lives are conditioned, millions of them to misery, by a man-made environment, whatever may be suffered or enjoyed from "Nature". Possibly the answer to all such questions is the same. Like Bacon, Spinoza, and Santayana, who are quoted with appreciation, Professor Woodbridge may have regarded philosophy as necessarily aloof from the social struggle. Intimations of this attitude are discernible in various parts of the book, in consequence of which I ended the reading of it wondering how much after all it has to say to those who want a philosophy for active life, the kind of philosophy for which there was never so great a need.

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The Analysis of Knowledge. By Ledger Wood. Princeton University Press, 1941. Pp. 263.

Professor Wood's treatise is an essay in "philosophical psychology" somewhat in the manner of the eighteenth century, but with contemporary significance. He analyzes knowledge into the referential and its vehicle in all consciousness. Like the phenomenologist, he studies the "origin" and "structure" of types of intentional "acts", and from them he derives the characters of their "cognitive objects". With this similarity, however, his relation to phenomenology ends, since his analysis is carried out at an existential level and from a pragmatic or positivistic standpoint. He makes an effort to separate epistemological from ontological problems, and often he seems to deal with the knowledge situation as though it were, in spite of its existentiality, in an ontological vacuum. Only at the end does he consciously make the "break-through" and raise the problem of truth.

We may divide the book into three parts. Chapters I-VIII are descriptive of the knowledge situation in sensation, perception, memory, introspection, conception, etc. Chapters IX and X develop a methodological account of structure, and they are more normative than the preceding. Chapter XI, on "Knowledge, Meaning, and Truth", presents the author's theory of the relation of the conscious structures he has pictured to the ontological facts he has purposely neglected, ending with a theory of meaning close to that of the Vienna school. The first of these groups of chapters is of unusual value to the philosopher and also to the psychologist. It contains many subtle descriptions with which every student of epistemology should be acquainted.

The latter sections are concerned with more problematical issues. Chapter IX is an investigation of principles as non-factual propositions from which derivations are made. His discussion of so-called self-refuting propositions, whose contradictories might be taken as axio-

matic, is illuminating, and his refutation of the paradoxes of self-reference avoids the arbitrariness of the theory of types.

This is followed by criticism of the Kantian method. The transcendental method, when not "abortive" due to a hybridization of a *de facto* starting point and a demonstrative procedure, is only a construction of an hypothesis which has no absolute necessity. This argument has been given at length elsewhere,[1] and it is not fair to criticize it in its abbreviated form. But it is proper to evaluate the suggested alternative, that *a priori* principles are postulates, rules, or definitions which are not *a priori true*. They are *a priori* because they "provide a preformed framework for the assimilation of new domains of fact" (210). A principle is the starting point of an analysis. But how is the *a priori* principle given an objective justification? It is here, I think, that the system fails to meet the Kantian issue. "The transition from pure science [*i.e.*, a formal system] to applied science [*i.e.*, a formed empirical content] is mediated by the all-important principle of inference—the principle, namely, that if a factual state of affairs conforms to the definitions and postulates of a valid formal system, all the theorems of the system are true of the same factual situation" (209). But this is not a formal principle; it can be justified only by an intuitive or transcendental procedure. No attempts at justification are given, yet it is the nerve of the entire argument. If Kant's thesis that the conditions of the possibility of experience are likewise the conditions of the possibility of objects of experience is not to be accepted, perhaps C. I. Lewis's theory that the *a priori* prescribes nothing to experience but lays down conditions within it for the ascription of reality might be acceptable. But then what becomes of reference? Knowledge may be "cognition of a cognitive object", but for Professor Wood truth-claims involve identification of cognitive with ontological object.

This leads to the discussion of criteria of truth. He rejects intuition and coherence, accepting correspondence or an indefinable "congruence" between the meaning of a proposition and a factual situation (239). He denies that the congruence is between data and objects or between proposition and "brute factual data". What is the "fact"? It is not a "brute fact" but "suffused with meaning and interpretation"; these do not, however, abolish its factuality. "Every percept contains a sensuous core in addition to its conceptual, interpretational, and constructional ingredients; the sensuous core of the percept itself is the factual element in the perceptual situation by reference to which the perceptual proposition is verified or falsified" (243). But it is not clear how the core differs from the mere datum, and how the core of the "sound [can be] perceived and recognized by me as conforming

[1] "The Transcendental Method", in *The Heritage of Kant*.

to my concept 'metallic sound'" (242). We seem to be left with a coherence between two propositional structures, one of which claims factuality by virtue of a nonstructural ingredient. If, however, Professor Wood can justify the congruence between fact and postulate and can defend his principle of inference, then the great number of interesting descriptions he has earlier given will become more relevant to the problem of truth.

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Foundations of Ethics. The Gifford Lectures delivered in the University of Aberdeen, 1935-6. By SIR W. DAVID ROSS. Oxford, at the Clarendon Press, 1939. Pp. xvi, 330.

These Gifford lectures contain no theology, but the Provost of Oriel is at pains to show that he has perfectly fulfilled the founder's intention, both because Lord Gifford expressly included as part of what he meant by "Natural Theology", "the Knowledge of the Nature and Foundation of Ethics or Morals, and of all Obligations and Duties thence arising", and because some ethical inquiries have an important bearing on the theory of God. The ethical inquiry which bears most on the nature of God is, Sir David Ross holds, "whether what may broadly be called the objective or what may be called the subjective view of obligations and values is the true one—whether they are rooted in the nature of things or are names expressive merely of human preferences, emotions, or opinions". His view on this question has not changed since he wrote his earlier book. *The Foundations of Ethics* is, upon the whole, an amplification of *The Right and the Good,* going more into detail, defending the original position against various European objections to it, and relating it to some European doctrines subsequently published. The chapter on "Indeterminacy and Indeterminism" is, however, entirely new.

The Provost's view is that both the right and the good are objectively rooted in the nature of things, that there are two separate ethical characters each of which is irreducible to nonethical characters and indeed unanalysable in every way, though we can say what genera they belong to and name them by various synonyms. His two ethical books are probably the most explicit and developed statements of the objectivist view, the unpopular view in this country, that can anywhere be found, though they are not as different from *Principia Ethica* as that book is from anything that came before it.

Nevertheless, the Provost's further reflections have compelled him to erode somewhat the rugged grandeur of the right and the good as they appeared in the earlier book. Each of these mountain peaks has now a crevasse in it, and perhaps there are four peaks instead of two. Even when we have set aside all attributive uses of the word "good"

and are considering only its predicative use, even when we have excluded that natural but "improper" use of the word to *express* enjoyment without *signifying* anything at all, we still find that the sense in which conscientiousness and some other things are good (I will call it $good_1$) is not that in which pleasure is good (I will call it $good_2$). A synonym for $good_1$ is "admirable". Only $good_1$ is unanalysable, and this is "the most proper sense of 'good' ". The analysis of $good_2$ is: "*x* is $good_2$" means "it is right for someone to feel satisfaction in *x*". $Goodness_2$ is relative, for it is right for a man to feel satisfaction in the pleasure of other men, while it is neither right nor wrong for him to feel satisfaction in his own pleasure. What has caused the Provost to distinguish $goodness_2$ is that he now considers impossible the view, stated in *The Right and the Good*, that virtue and pleasure are on the same scale of goodness and yet even the smallest amount of virtue is better than even the greatest amount of pleasure.

"It is $right_2$ for me to do what I *think* is the $right_1$ act in view of what I *think* the situation is." This sentence, though not a quotation, is true on Sir David's view. A synonym for $rightness_2$ is "obligatoriness". A synonym for $rightness_1$ is "moral suitability or fittingness". Sir David does not make clear whether both of these rightnesses are unanalysable or only one; for in the chapter where he says that rightness is unanalysable (or "indefinable", as he more often puts it) he does not distinguish the two kinds of rightness, and in the subsequent chapter where he distinguishes the two kinds he does not refer to the unanalysability of rightness, and the final summary follows the same procedure in miniature. $Rightness_2$ involves, he points out, a "double dose of subjectivity", for what I think comes into it twice (but objectivity is preserved by $rightness_1$ as well as by $goodness_1$). This subjectivity has been forced upon him by reflection upon his Cook-Wilsonian conception of knowledge as an incorrigible certainty, for we rarely if ever enjoy Cook-Wilsonian knowledge either of what the actual situation is or of what would be morally suitable to any supposed situation.

What is Sir David's latest evidence for the existence of these two objective and irreducibly ethical qualities, $rightness_1$ and $goodness_1$? As before, the main part of it is an appeal to what we actually mean, in common unphilosophical life, in some of our uses of these words. In the case of each quality, but especially for rightness, he spends many pages considering various subjectivist definitions and urging that they are not what we actually mean. Now this argument is certainly a true account of some usage; undoubtedly many a common man, and many a highly sophisticated man in his common moments, has often used the phrase "*x* is good" to mean, not that *x* was approved by him, nor that *x* was approved by society, nor any relation of *x* to

humanity at all, but that *x* possessed a certain quality in its own right, which quality he naïvely assumed to be perfectly simple and perfectly independent of man, just as he naïvely assumed redness to be a quality perfectly simple and perfectly independent of men. Sir David's argument is therefore conclusive against any subjectivism which consists in or includes the proposition that what we actually mean by saying "*x* is good" or "*x* is right" is always some relation of *x* to humanity. In our ordinary unphilosophical thought and language we are all of us much of the time thoroughgoing objectivists. Sir David is absolutely right about usage. It may even be true, as has been suggested to me, that there is no such thing as a subjectivist except for a short while on paper.

On the other hand, this argument is powerless against any subjectivism which does not base itself on usage. Suppose a subjectivist who says: "I do not care how anybody uses words, or what he means or thinks, because I am not talking about language. I am talking ethics, not linguistics or semantics. And if you tell me that people imply objectivism by the way they talk, I can only regret that people should imply what is false." Such a man is impervious to the argument from usage. He may perfectly well hold that Sir David is right about what we mean, and add that what we mean is mistaken. For, he will urge, the discovery of what we mean by the word "right" will no more answer the questions of ethics than the discovery of what the Greeks meant by the word "Atlantis" will answer questions about the face of the earth.

The Right and the Good gave no further evidence for objectivism than this inconclusive argument from usage. The Provost appeared to be tacitly assuming that *what we really mean must really be so.* By the word "centaur" we really mean an animal that is part man and part horse; yet there is no such animal. But in the sphere of ethics, the Provost appeared to be arguing, what we really mean by a word must really be exemplified in the universe.

The Foundations of Ethics recognizes the possibility of a man who admits all that the Provost says about usage but denies that it has any relevance to the ethical facts. This book faces the suggestion "that there is *nothing* in reality answering to the meaning which we have in mind when we use the word obligatory" (15). I quote a large part of the new argument which the Provost advances to meet it.

> The question then is, how did we come by this thought? Two answers may be given. One is that by an exercise of fancy we came to believe, without justification, that certain actions have this character. The other is that, having up to a certain time recognized only naturalistic characteristics of actions, such as that they conduced to survival or that they were commanded by the community, the human mind, when it had reached a certain degree of maturity, became able to detect in

> actions the non-naturalistic characteristic of rightness. Whichever account is given, we are crediting the human mind with having made at some time a new departure—either the fanciful invention of a new idea, the idea of rightness, or the detection of a hitherto undetected characteristic of actions. In either case a breach of continuity is involved, and that involved in the former case is certainly no more easy to understand than that involved in the latter.

Similarly with regard to goodness Sir David now recognizes the possibility "that nothing possesses the kind of intrinsic characteristic which we ascribe to things when we call them good; that some things are, however, the actual or possible objects of a favourable emotion, and that on the strength of this we mistakenly ascribe to them goodness in themselves" (261). Again his new argument to meet this suggestion will be eagerly weighed by all who hope to save the objectivity of morality:

> The fact is, however, that it is impossible to approve of anything without thinking it *worthy* of approval—without thinking that it has a goodness of its own which makes it fit to be approved. The view that the whole fact is that certain things are approved is one which makes nonsense of approval itself. If things were only approved, without anything being worthy of approval, the act of approval would simply be nonsensical. Approval may be misplaced in detail; the fact that a particular person approves a particular thing does not imply that that thing is actually worthy of approval; but the fact that we approve at all, rightly or wrongly, is the clearest possible evidence of a universal conviction that there are some things that are worthy of being approved. And disagreement about what things are good is just as clear evidence of this conviction as agreement about it would be.

That is objectivism's latest statement of its case. Is it the last gleam of the setting sun before the "perpetual night" of subjectivism, or is it the first ray of dawn? I will not hazard an answer to that, but what I will say is this. Persons who believe in subjectivism and remain cheerful have not drawn the implications of their theory. Persons who dismiss Sir David Ross's magnificent effort as old-fashioned or unscientific, as an "ontological proof" plausible only to those who do not understand how language works, are incurring a heavy responsibility. It is no small matter whether the United Nations are fighting for the right, or only for what they approve.

RICHARD ROBINSON

CORNELL UNIVERSITY

Faith for Living. By LEWIS MUMFORD. New York, Harcourt, Brace and Co., 1940. Pp. x, 334.

This is an outspoken, dramatic and sometimes violent indictment of contemporary civilization by one who believes that we must undertake a thoroughgoing transvaluation of values if we are to meet the chal-

lenge of fascism successfully and permanently. The apocalypse of violence which now confronts us is the consequence of our inner moral decay. The mechanized and impersonalized twentieth century never earned or assimilated the Christian morality to which it fell heir. Thus modern man, living amidst the "opulence of carefully packaged emptiness", succumbed to the three-pronged cult of power: militarism, capitalism and the machine. And with "mechanization at the bottom, savagery at the top", men either embraced fascism actively, or became "passive barbarians".

Is there enough faith left in the masses of men to counteract the religion of fascism? Mr. Mumford asks. "Ideal liberalism" has been betrayed by "pragmatic liberalism", which is devoid of controlling moral norms. The deepest need is for a new philosophical orientation and a wholehearted rededication to the prime ends of life. Such a central core of purpose must recognize the social locus of all values and the need for the creation, preservation and sharing of values for all mankind. In specific and practical terms, Mr. Mumford urges a renewed cultivation of family life, renewed devotion to the land from which we spring, and of re-education of the inner self.

It is no simple or easily labelled faith that the author advances. It contains many ingredients, including some honest paradoxes. He draws on stabilizing traditions when it suits the case, but pleads eloquently for the creation of dynamic attitudes and values. "We are burked by the lack of creative purposes." The book as a whole is an ardent plea for a revivified democratic society in which "the power-personality with its crude one-sided objectives" is replaced by a new cultivation of the inner life, in preparation for the economics and politics of sacrifice which is imperative for our salvation in the world of today. "Nothing is lost if the spirit lives."

Instructors in ethics looking for a biting, provocative critique of contemporary morality in general terms, may wish to recommend this book to their students.

Otto F. Kraushaar

Smith College

The Genesis of Plato's Thought. By Alban Dewes Winspear. New York, The Dryden Press, 1940. Pp xii, 13-348.

This new approach to the social sources of Platos' thought derives mainly from the insight that Greek society was not of one mind about iself, but of at least two minds, corresponding roughly to the protagonists in the struggle for power: the landed aristocracy and the commercial entrepreneurs. The latter find in Periclean democracy their political ideal, in Ionian materialism their characteristic philosophy. This was opposed by the "conservative philosophy" of the Pythagoreans. Further enriched by Parmenides' critique of change

and Socrates' critique of popular government, this was re-cast by Plato's genius into a definitive defence of aristocratic conservatism.

Here is a sustained effort, the first in America, to apply to the *Republic* a Marxian methodology. It is far more successful than the author's earlier experiment, *Who Was Socrates?* It is addressed to the general public. But it deserves the attention of philosophers for the intrinsic importance of its methodology, the boldness of its thesis, the vigor of its argument. The specialist will be irked by departures from accepted interpretations; unsupported by detailed evidence such deviations often appear arbitrary and dogmatic. I restrict my questions to two main points:

The social determination of thought is a tricky hypothesis. Commended by some, execrated by others, it is seldom critically defined. In this book it is assumed throughout and often affirmed, but with no analysis of its content. It is used in at least two forms which will not stand examination:

(a) That cosmology is a socio-political allegory. Thus in Anaximander, it is conjectured, "the earth corresponds to Ionian mercantile enterprise" (120).

(b) That philosophers deliberately built their systems to provide theoretical sanction for their political ideas. Thus pre-Socratic speculation was "a whole cosmological, logical, and metaphysical structure intended to guard the central position—the affirmation of the thinker about the meaning and nature of justice" (78).

(a) strikes me as fanciful; (b) as a misunderstanding. A philosopher's version of the truth may be refracted by his social bias; but it is unnecessary to assume that he either knows or intends this refraction. The author is not sufficiently on his guard against the strange conception of philosophy that would reduce it to a political artifact, and the stranger conception of human nature that would convert all interests, including the interest in truth, to epiphenomena of political partisanship.

The most important application of the hypothesis is made in the assertion that "both the Academy and the Pythagoreans acted as theoretical spokesmen of landed conservatism" (248). Now as for the Pythagoreans, we have reason to believe that they were involved in bitter struggles with the democrats in the cities of Southern Italy during the middle of the fifth century.[1] But this does not preclude

[1] For the most discriminating analysis of the confused and uncertain evidence see the recent monograph by Professor von Fritz, *Pythagorean Politics in Southern Italy*. Professor Winspear gives no review of the historical evidence, but accepts the moralising of Aristoxenus and the opinions of "Hippodamus" of the Stobaean *Florilegium* (who, incidentally, is inexplicably merged with Hippodamus of Miletus) as a safe guide to the politics of the early Pythagoreans and even of Pythagoras himself.

a later accommodation with democracy (as of Archytas at Tarentum), or earlier opposition to landed aristocracy when that was the *status quo* and Pythagoreanism a political innovation. At that time an intellectual aristocracy must have appeared as a challenge to the *ancien regime* of hereditary aristocracy. *Aretē* of knowledge and *aretē* of blood—the opposition flares up in both Xenophanes and Pindar—may be reconciled, as in Plato, but they should not be confused.

As for Plato, he is plainly hostile to popular government. But his proposed alternative in the *Republic* would hardly endear him to the pillars of the oligarchic clubs. One can imagine their feelings at ideas like communism of land, dissolution of the family, emancipation of women, and, worst of all, dictatorship of the intelligentsia. This is a commonplace observation. But Professor Winspear neglects its implications in his enthusiasm to expose the "reactionary" side of Plato's thought. He hits the truth when, more guardedly, he remarks that "in practice Plato leaned heavily towards the landed artistocracy" (228). In his single political venture Plato supported, at least for a time, Dion, an aristocrat, who was hated as cordially by the Syracusan demos as the tyrant he displaced.[2] But the fact remains that Plato's theory in the *Republic* keeps at Olympian distance from the realities of oligarchic policy. To explain that discrepancy between theory and practice; to study the *Republic* as a utopian tangent, and produce historic reasons for its alienation from history—this is the task that must supplement the present study of Plato as "a spokesman of landed conservatism".

GREGORY VLASTOS

QUEEN'S UNIVERSITY

David Hume: The Man and His Science of Man. By F. H. HEINEMANN. Paris, Hermanns & Cie, 1940. Pp. 65.

In 1936 Dr. F. H. Heinemann discovered in Edinburgh a number of unpublished letters by Hume. These letters, printed with a running commentary by Dr. Heinemann, form the backbone of the present work. The letters have little or no bearing on Hume's philosophy. They are presented in the expressed hope that they may throw further light on an "inexhaustible personality" characterized by "rational irrationality".

The main correspondence which Dr. Heinemann thus brings to light is one between Hume and Robert Wallace (1697-1771), whose interests in mathematics and theology enabled him first to serve as Assistant to James Gregory, Professor of Mathematics in Edinburg, and

[2] With Professor Winspear's idea of Dionysius I ("the head and the symbol" of "Syracusan democracy . . . much as Pericles had been in Athens" (177) I must sharply disagree. See Freeman, *History of Sicily*, IV, Supplement by A. J. Evans, pp. 211 ff.

then to respond to an ecclesiastical call which carried him on to become one of the royal chaplains for Scotland and a dean of the Chapel Royal. Hume had read Wallace's work on the *Numbers of Mankind in Ancient and Modern Times* and, finding it full of difficulties and generally inadequate, was impelled to read widely among the ancient writers on the subject (to Elliot, 18 . . . 1751), with results that are well known. In the course of his first letter on this subject to Wallace, and with reference to his *Enquiry Concerning the Principles of Morals,* Hume remarks, "I hope you will not find my ethics liable to much Exception, on the Side of Orthodoxy, whatever they may be on the Side of Argument and Philosophy". In his reply to this letter, Wallace refers to Hume as a "Philosophical Genius" but refrains from committing himself as to the orthodoxy of what he knew of Hume's views. However, it is clear that Wallace was no bigot. In 1756 a man named Anderson urged the excommunication of Hume by the Church Assembly. An unpublished paper by Wallace (Univ. Lib. of Edinburgh Laing *Mss* 11, 620) makes it plain that he rallied to Hume's defense.

Following the correspondence with Wallace, Dr. Heinemann prints a single letter to which he appends several pages of commentary designed to show that in this letter Hume evinces subconscious desires for worldly betterment. Since this letter bears the name of no addressee, and contains proper names which Dr. Heinemann is obliged to rewrite in order to make them fit into his argument, as well as an asserted reference to Julie de Lespinasse that does not even begin to mention her by name, in itself the letter in question would seem to afford little evidence for anything more than the explicit point that in 1774 Hume considered himself eligible for the office of Gentleman of the Police in Scotland.

Several letters to Dr. Cowper and John Hume follow. Dr. Heinemann comments on them as follows: "Thus these letters illustrate Hume, the historian, the Chargé d'affaires, the State Official and show that Hume's form of life was something more than merely philosophical." Dr. Heinemann seems to have a conception of Hume's character that has become less prevalent as the curious notion, fostered by Grosse, of Hume as a "lonely Scott" has been progressively dispelled. Indeed, the editor of these letters goes so far as to defend Hume against the charge of being "an easily deceived peasant". "Hume is regarded as being very simple and naïve, an easily deceived peasant; but in reality", Dr. Heinemann urges, "he was very complex and far from naïve". This view of Hume is gratuitously ascribed to Lord Grafton and Lord North, as of 1774. It is perhaps rather difficult to see why that ascription itself did not prompt Dr. Heinemann to defend their Lordships against the gratuitous charge of being hopelessly parochial, or worse. It seems rather far fetched to assume

that as late as 1774 men of their standing could fail to know that Madame du Deffand, Julie de Lespinasse, Madame la Comtesse de Boufflers, Adam Smith, and D'Alembert were among Hume's close friends.

RALPH W. CHURCH

CORNELL UNIVERSITY

The Problem of Religious Knowledge. By DOUGLAS CLYDE MACINTOSH. New York, Harper and Brothers, 1940. Pp. xvi, 390.

Professor Macintosh's latest book hardly fulfills the anticipations encouraged by its title. All but five of its chapters consist of criticisms of doctrines held by other theologians and philosophers, and with few exceptions these criticisms consist of brief reactions governed by the author's own assumed criteria of religious truth. Of the few more thorough and systematic criticisms, one (the chapter on George Burman Foster) is merely a biographical analysis, while another (the assessment of Dewey's religious philosophy) is seriously inadequate. Instead of basing his criticism on Dewey's reasoned statement in the second chapter of *A Common Faith,* Professor Macintosh interprets him almost entirely in the light of brief hints about religion in his earlier books or inferences from his position on other matters.

Four chapters present a constructive position, and should be read in connection with the author's earlier *Theology as an Empirical Science.* Thirteen "laws" of empirical theology are proposed, each in two forms—one form assuming the reality of God, the other expressed merely in terms of a normative psychology. The major problem left the reader here is, how to identify instances of these laws in view of the vague terminology in which they have to be expressed, and how to apply to their verification the correlational methods of responsible social science. On these difficult matters Professor Macintosh offers no aid. The two closing chapters explain how empirical theology needs to be supplemented by "normative" theology, which justifies as a matter of intuitive faith a unitary and personalistic interpretation of the divine, and by "metaphysical" theology, whose task is to determine the proper employment of such a concept in a reasonable philosophy of reality.

E. A. BURTT

CORNELL UNIVERSITY

The Promise of Scientific Humanism. Toward a Unification of Scientific, Religious, Social and Economic Thought. By OLIVER L. REISER. New York, Oskar Piest, 1940. Pp. xviii, 364.

Philosophers are frequently criticized for neglecting the problems of contemporary civilization in their pursuit of purely academic interests. Such a criticism, however, cannot be directed at Professor

Reiser, who is convinced that the chaotic condition of contemporary civilization is due primarily to the failure of classical philosophy to meet the requirements of modern science and social life. Indeed, he believes "that a radically new mode of thought and orientation will be operative in the future, or must become so if mankind is to survive" (x).

The author's main philosophical thesis is that human intellectual evolution has already gone through two major stages of development and that we are about to enter, or should enter, upon a third stage. The first stage was the pre-Aristotelian period during which primitive mentality prevailed. Following Lévy-Bruhl's analysis he describes this mentality as "prelogical", that is, as being indifferent to Aristotelian logic and the three classical laws of thought. Instead, primitive mentality is governed by the principle of "participation" according to which "everything is everything else". The second period is the Aristotelian one in which we live at present. The Aristotelian mentality is governed by a static logic and presupposes the absolute individuality of substance and the notion of absolute truth. The third stage which the author would like to see prevail is the non-Aristotelian mentality. This mentality would function with an "organismic and relativistic" logic which would unite intellect and emotion and would replace the theory of absolute truth by "a multiple- or n-valued logic of probability in which the truth-false dichotomy will appear as a limiting case" (xiii). This third period would mark a return to the primitive organismic notion of the unity of nature but on a much higher and more sophisticated level of understanding.

Professor Reiser links up his evolutionary speculations with Dr. J. B. Rhine's investigations of Extra-Sensory Perception. He foretells that the superman of the future will possess new psychic capacities such as telepathy and clairvoyance and that the latter will be rendered possible through the emergence of a psychic ether or continuum (298). "Humanity thus appears as a god in embryo, a developing being with the psychic powers—omniscience and omnipresence—which man has hitherto assigned to his God" (302).

The author finally submits his version of cosmecology or cosmobiology to account for biological evolution in general. Life, he maintains, is ultimately an electrical phenomenon and the human mind is simply the integrated energy-fields of the body (170). It is conceivable, therefore, that cosmic rays are causally connected with the origin of species (306) and that they will eventually help bring into existence a super-mind in which inter-personal contact will be a usual experience (315). Humanity, the writer holds, is still in its infancy, and will have to wait a long time before manhood, as here described, is attained, "unless, through radio-eugenics we take the fate of biological evolution into our own hands" (317).

In the social realm, the acquisition of this new super-mind with its inter-personal communication, will necessitate "global planning". Practically this will involve "a United States of the World implemented with police power to enforce common decisions" (244). Scientific humanism, the doctrine that man through the use of intelligence is a real agent in the future course of events in nature and society, becomes then the religion of the future. This humanism has but one commandment: "Have faith in man and the potentialities of his intelligence" (246).

This reviewer finds the "promise" of scientific humanism rather ambiguous. On the one hand, the author's theory of cosmecology seems to imply a necessary, gradual process of biological and mental evolution. On the other hand, the non-Aristotelian stage of evolution is said to be essentially dependent upon conscious human efforts. It is not clear whether this new mode of thought is merely a Utopian promise, a moral exhortation, or a scientific prediction.

Furthermore, this reader finds it impossible to share the writer's conviction that the Aristotelian type of thought is responsible for all the shortcomings of modern civilization. The writer seems to forget that it was Aristotle himself who stressed the social nature of man and that it was Kant who clearly envisaged the possibility of international coöperation in a league of nations. The Thomistic synthesis bears witness that Aristotelian logic is quite compatible with a logic of coöperation as applied to nature and society and does not involve that radical exclusiveness and individualism which the author presupposes. It is rather amusing to note that contemporary Thomistic writers go to the opposite extreme and attribute all the evils of modern culture to the non-Aristotelian mentality and humanistic anthropolatry which Professor Reiser, in spite of his relativistic point of view, advocates so uncompromisingly.

The book as a whole is clearly and provocatively written, though there is considerable repetition due to the fact that much of the material was previously published in the form of separate papers. As an adventure in evolutionary speculation the work merits serious consideration.

D. BIDNEY

YALE UNIVERSITY

Reason, Social Myths, and Democracy. By SIDNEY HOOK. New York, The John Day Company, 1940. Pp. xii, 302.

The author does not regard beliefs about social issues as futile. "The *causes* of a social movement are rarely, if ever, to be found in its inspiring beliefs and doctrines. But the *results* of a movement cannot be explained without reference to them" (3). In an unstable social situation, the choice of beliefs is therefore important, and the

question, "What *method* shall we follow in developing new beliefs and testing the old?" is a vital issue (5). However people express the grounds on which they recommend any such method, "they amount to a claim that the adoption of this method will enable us to control or anticipate the future more adequately than the competing methods" (6). Scientific method (as conceived by Dewey) is cited as best meeting this requirement.

"The greatest intellectual obstacle to social inquiry, the most frequent cause of intellectual confusion" is said to be found in "the use of unanalyzed and unanalyzable abstractions in our speech" (13). Unanalyzable abstractions are those which prevent the sentences in which they occur from being meaningful. "Briefly, a sentence is meaningful if we know how to go about testing it, and what would constitute evidence tending to confirm or refute it" (14, 15). Such terms as "liberty", "democracy" and "Jew" may be meaningful as used by some and meaningless as used by others. "The term liberty is a legitimate abstraction if it is coupled with a schedule of specific things an individual or group of individuals wants to do or wants to observe"; without such a schedule it is meaningless (16, 17).

The author thus presents a sharp antithesis between "meaningful" and "meaningless". Is it not, rather, the case that discourse about social matters is rarely 100 per cent meaningful or 100 per cent meaningless? Does not the verbal context and the social situation usually give a clue to some of the concrete liberties demanded under the general heading of "Liberty"? And can the most expert social scientist or jurist define "Liberty" so exactly that there is no doubt which borderline cases are included or excluded? Is it not better to recognize that clarity of speech is a matter of degree, not of simple presence or absence? The author recognizes that statements and slogans which he condemns as meaningless are often symptomatic of plans and purposes, and may therefore help the observer to predict the behavior of those who use them. No doubt. But must not a slogan, however ambiguous, have at least a nucleus of objective reference for each auditor who is moved by it? The author defends the logical significance of value judgments against those who dismiss them as merely expressions of emotion. "A judgment of value, or of better or worse, is an hypothesis that is formulated in the context of an existing situation in which there is a need or lack or interest. It asserts that if certain operations are performed, the consequences would be such that the original need or lack or interest would be fulfilled" (92).

A central feature of the book is the discussion of "What is Living and Dead in Marxism". The author inquires "into those doctrinal aspects of contemporary Marxist movements which seem definitely invalidated, and those aspects of the Marxist tradition, broadly conceived, which may still be integrated into a sound synthesis" (106).

The claims of most Marxists to be "scientific" are undermined by (a) the habit of treating Engles' formulae as ultimate scientific truth, regardless of later scientific progress, (b) the habit of looking to experience "only to confirm Marxist pronouncements, not to test them" and (c) "the fear of revising their ideals" which "led, on the one hand, to a terminological fetishism, and, on the other, to a vicious, because unacknowledged, revision of socialist ideals in practice" (107-109). The author accepts the Marxist view that capitalism is incompetent to maintain profits, employment, and a standard of living proportionate to our resources (110). But he chides Marxists for awaiting a supposedly inevitable collapse instead of studying the most appropriate political means of transition to a better economic order (111). He finds the Marxist conception of the state as an instrument of the ruling class too simple for the interpretation of actual politics. Still worse is the assumption "that in a collectivized economy, differences of economic interests would disappear and therewith the necessity for any state power". This assumption, he contends, prevented the exercise of thought "precisely at the point where it was most urgent, *i.e.*, in relation to the question of how liberties and rights, which were historically developed with an unplanned capitalism, were to be preserved and extended in a planned collective economy" (112). It also prevented the use of parliamentary institutions to promote a peaceful change to socialism. "According to Lenin's revision of Marx, the transition to socialism *cannot* be achieved either democratically or peacefully" (113).

Marxists were right in seeing the importance of party organization. But Lenin, in making his party efficient for the seizure of power, destroyed its democratic character; instead of being responsive to the opinions of its own members or of the masses whose interest it claimed to express, the party came to tyrannize over the masses, and the leader to tyrannize over the party (114-116). Lenin's theory of revolution is not a scientific theory of how to achieve democratic socialism; his methods in Russia "won power, not socialism". Elsewhere, they might not even win power (117-119).

Mosca, Pareto, Michels, and Nomad have argued that oligarchic rule is inevitable, and that revolutions can only change the personnel of the ruling élite. The author concedes that their generalizations are largely valid as regards past history. But he thinks that only a falsely static view of human nature (refuted by Dewey) could shut out the hope of a more democratic order (120-123). Those who cherish such a hope should learn from Stalinism and Hitlerism what to avoid. Economic injustice under socialism should be avoided by "specific mechanisms which will both reflect and negotiate the conflicting interests of different groups of producers and consumers" including "working-class and professional organizations . . . *that are genuinely*

and permanently independent of the government (123-125). Motives tending toward tyranny must be counteracted by avoiding any monopoly of education, press and radio, by making education inculcate the logic and ethics of scientific method, and by recognizing that "methods of intellectual analysis to resolve conflicts of policy between minorities and majorities are an integral part of" democracy (125-127). The dogmatic "historical materialism" of the Marxist tradition must be abandoned (127, 128).

Marxian emphasis on the working-class as revolutionary leader should be broadened to promote coöperation of many groups (129, 130). Marxian historicism should not be so construed as to produce a limitless relativism; rightly interpreted, it calls for value judgments based not on intuition or authority but on a consideration of the interests and opportunities in a given situation (131, 132).

The sound aspect of Marx's rationalism, according to our author, was his belief "that rational or scientific method is the only method that can be successfully employed wherever we seek understanding and control". Present day Marxist groups are more zealous and loyal than intelligent. Marx was rationalistic, like Plato and Aristotle, in his insistence on social planning. As to the aim of planning, he sought not merely economic security, but such a type of organization as would facilitate "the activities of free, creative, critical and adventuring human beings" (132-134). He was therefore a *humanist.* He recognized that private property in consumer's goods is "necessary to the enjoyment of personality" though private ownership of capital is not (135). Again, he upheld the ideal of the *whole man* as against cramping types of specialization; he wished labor to gratify a natural bent as well as serve a social need (136). Again, he foresaw a pervasive democracy, involving "the active participation of all members of the community to a point where the vocation of professional politicians would disappear" (137). The author holds that Marx's humanism implies that socialism without democratic liberties may be much worse than existing (capitalistic) democracy (138).

At one point the author speaks of Marx as "a tough-minded realist" (138). Yet he also points out that Marx's declaration that the proletariat will not permit itself to be enslaved has proved tragically wrong in Russia, Germany and Italy (137, 138); that his expectation of a democracy so pervasive as to dispense with professional politicians was "naïve hope" (137); and that he chronically displayed an "optimistic assurance that all workers could read *Capital,* and that anyone who read it without prejudice would therewith be convinced" (133).

The author never mentions the pivotal doctrine of surplus value; we do not learn whether he still regards it as he did in 1933 (*Towards the Understanding of Karl Marx,* 222, 223).

The author conceives a truly Marxist movement as one that would

seek, by applied intelligence, "to achieve . . . economic security, political freedom, and opportunities for cultural development in an essentially socialized economy" (141). For him, German Social-Democracy and Russian Bolshevism are counterfeits" (141). He considers that the doctrine of Marx has been so perverted by Marxists that those who share in the best aspects of Marx's thought regard themselves as anti-Marxian. "The most outstanding figure in the world today in whom the best elements of Marx's thought are present is John Dewey" (132). Professor Dewey can take care of himself, but if Marx's remains were exposed like Lenin's, we might ascertain whether he had turned in his tomb.

It would have been helpful if the author had followed the same practice in this chapter as in others by giving a reasonable number of references to Marx's works.

A chapter entitled "Reflections on the Russian Revolution" is mainly a review of Trotsky's *The Revolution Betrayed.* The author agrees that Stalin's tyranny is a betrayal of socialist ideals, but finds inconsistencies in Trotsky's philosophy. He also finds evidence that if Trotsky had achieved leadership he would have proceeded no more democratically than Stalin (179).

According to the author, socialism originally sought to defend and supplement political democracy by adding social and economic democracy to it. The lack of democracy in the Russian Revolution has prevented it from achieving "the moral and material promise of the socialist ideal" (180). On the intellectual side the movement failed to become fully scientific because of its heritage of "dialectic" (180).

A long and very valuable chapter is devoted to "Dialectic and Nature", based mainly on the writings of Engels. Seven meanings of dialectic are distinguished; six of these are rejected and the seventh is a superfluous synonym for scientific method. The ambiguities and inconsistencies of Engels' usage are condemned, and the fallacies of the "laws" of dialectic are exposed.

So little is left of the doctrines of Marx, Engels and their followers after the author has completed his criticism that apparently social philosophy might well forget Marx and take a fresh start.

In other chapters the author gives searching criticism, mostly negative, of the views of Karl Mannheim, Thurman Arnold, Max Lerner, Jacques Maritain, the Bolsheviks who censor and pervert science on a class basis, the Nazis who do the same on a race basis, and a number of scientists who claim to apply dialectical materialism to scientific problems, including J. B. S. Haldane and H. Levy. These critical discussions are acute and valuable.

In a brief final chapter, the author professes his adherence to democracy and undertakes to clarify the concept of it. Among the positive requirements of democracy he includes "some form of social

ownership and planning" (290). The values of economic individualism are not reviewed and rejected by any form of argument, but blandly ignored. No consideration is given to the various efforts from the Interstate Commerce Act to the New Deal by which Americans have sought to humanize the economic order while preserving some values of individualism. In general the reader is far more conscious of European than American backgrounds in this book. The author recognizes the factual linkage of political and cultural liberties with capitalism in France, England, and America. He recognizes the factual linkage of political and cultural tyranny with economic collectivism in Russia, Italy, and Germany. He demands a combination of economic collectivism with political and cultural freedom. He exhorts us to use scientific method in devising means to this end. He seems moderately optimistic about the project, but his book offers no substantial ground for such optimism.

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Behemoth: The Structure and Practice of National Socialism. By FRANZ NEUMANN. Toronto, Oxford, London, Oxford University Press, 1942. Pp. xvii, 532.

This book is a careful and fully documented account, drawn wholly from German sources, of the origin, the ideology, and the practice of National Socialism. It begins with an introductory analysis of the chief sources of weakness in the Weimar Republic and consists of three main parts, dealing respectively with politics, economics, and society in Germany during the last ten years. The treatment is in all cases as thorough as the space permits and as objective as is possible under present circumstances. The author has the advantage of having practiced law in Germany and consequently of being familiar with German juristic and governmental procedure.

In Dr. Neumann's view the political ideology of National Socialism is not a single coherent theory but a number of theories, very largely irrelevant to each other and more or less incompatible, which are variously combined according to the dictates of opportunism. The doctrine of a totalitarian state he is inclined to regard as a passing phase of National Socialism, occasioned in its early stages by the need for concentrating power. The use of the word "state", with the connotations that it had in German political philosophy, appears to him definitely inappropriate; in this he agrees with the conclusions recently drawn by Dr. Herbert Marcuse in his *Reason and Revolution.* In particular, the mystical principles of leadership and race seem to him to be incompatible with a rational concept such as the state. On the other hand, political or economic demands for *Lebensraum,* the theories of geo-

politics and the pressure of population, and the claim of a German Monroe Doctrine for Europe have no logical relation to race. The most persuasive and hence the most dangerous form of National Socialist ideology, in Dr. Neumann's judgment, consists of what he calls "racial imperialism". This theory pictures Germany as a proletarian people unjustly exploited and deprived of access to the sources of wealth by the democratic plutocracies. The appeal of this theory lies in the fact that it runs in terms of a perverted Marxism and therefore adapts concepts which have long been habitual in German political thinking. For the class struggle it substitutes the struggle of Germany against the plutocracies, and it imputes to the German race the same mythical virtues that Marxism imputed to the proletariat. To the reviewer it seems that this sort of glorification of the German people was inherent in the idealism from which Marx originated and therefore need not owe all its persuasiveness to the spread of Social Democracy.

Dr. Neumann's analysis of the National Socialist economy is designed to show its continuity with the organization of business which was perfected under the Weimar Republic. In particular he rejects any interpretation of National Socialism as a noncapitalistic economy. On the contrary he regards it as a form of monopoly capitalism which is still driven by the profit-seeking motive and is still competitive. Competition, however, is not for the possession of markets and does not operate to determine the level of prices. It is competition for quotas, permits, shares, patents, and licenses, but it is none the less effective in forcing marginal plants under the control of their larger and more powerful rivals. More and more the effective control of business has passed into the hands of those who direct the larger syndicates and out of the hands of the small operators who saw their salvation in National Socialism. This tendency has so far not been retarded by the "command economy"—the economic regimentation of the government—though political power might conceivably be used against monopoly instead of for it. Big business and the Party have so far found their advantage in cooperating. The beneficiaries of the system are indicated by changes in the distribution of national income since 1932: the share of labor has fallen, in spite of increases in the number of persons employed and in the volume of production; income from industry and trade, and especially income in the form of undistributed corporation profits, has increased considerably.

The only substantial benefit that the working class has received from National Socialism is full-time employment, and whatever satisfaction it may find in the regime can be rationally based only on the belief that greater security makes up for greater exploitation. In general, of course, Dr. Neumann does not believe that the acquiescence of the German masses is based on rational considerations. On the contrary

he believes that the antagonisms between the National Socialist ruling class and the working class are profound and that, in the long run, a rational estimate of interests will de-bunk the hypnotic techniques that have proved so successful. His argument on this point turns upon the conviction enunciated by Marx and spread in this country by Veblen—that the rational processes of industry must in the long run rationalize human relations. The rule seems less plausible after the experience of the last ten years, and even if it be true, one wonders how long the long run has to be and whether anything rational can last through it. But probably no other faith is more plausible. At the same time Dr. Neumann is not disposed to underestimate the reasonableness of choosing security even at a high price. No return to the anarchic conditions, economic and political, which preceded the War is possible as the basis of a European settlement. Europe "cannot again be divided into hostile warring states", nor can its people be satisfied with "the anarchic conditions of the great depression". Of these two facts the United Nations must take account if they are to make a cleavage between Germans and their present rulers. This is the thoughtful conclusion at which Dr. Neumann arrives. His book is one of the most thorough and judicious accounts of National Socialism so far produced.

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The following books have been received:

A Pastor Looks at Kierkegaard. The Man and his Philosophy. By WILLIAM T. RIVIERE. Grand Rapids, Michigan, Zondervan Publishing House, 1941. Pp. 232.

Publications on Philosophy in Latin America in 1940. By RISIERI FRONDIZI. A selected list of publications which appeared on this subject during the year 1940, with evaluative and informative notes on important items, reprinted from the *Handbook of Latin American Studies* for 1940. Cambridge, Mass., Harvard University Press, 1941. Pp. xvi, 453-462.

The Eclipse of a Mind. By ALONZO GRAVES. New York, The Medical Journal Press, 1942. Pp. xiv, 722.

Cyrus Adler. A biographical sketch. By ABRAHAM A. NEUMAN. New York, The American Jewish Committee, 1942. Pp. x, 234.

Is Modern Culture Doomed? By ANDREW J. KRZESINSKI. New York, The Devin-Adair Co., 1942. Pp. xvi, 158.

Behemoth. The Structure and Practice of National Socialism. By FRANZ NEUMANN. New York, Oxford University Press, 1942. Pp. xxviii, 532.

Jefferson. By SAUL K. PADOVER. New York, Harcourt, Brace and Company, 1942. Pp. xii, 460.

The Religion of Greece in Prehistoric Times. By AXEL W. PERSSON. Berkeley and Los Angeles, University of California Press, 1942. Pp. xii, 190.

Realms of Being. By GEORGE SANTAYANA. New York, Charles Scribner's Sons, 1942. Pp. xxxii, 862.

Voltaire, Pascal and Human Destiny. By MINA WATERMAN. New York, King's Crown Press, 1942. Pp. xvi, 130.

The Unfinished Task: Economic Reconstruction for Democracy. By LEWIS COREY. New York, The Viking Press, 1942. Pp. ix, 314.

Religious Crossroads. By RADOSLAV A. TSANOFF. New York, E. P. Dutton & Co., Inc., 1942. Pp. xiv, 384.

Teleology in the Philosophy of Joseph Butler and Abraham Tucker. By WILLIAM GLEN HARRIS. A Dissertation. Philadelphia, University of Pennsylvania, 1941. Pp. xviii, 50.

Who's Who in Philosophy. Volume One, Anglo-American Philosophers. Edited by DAGOBERT D. RUNES, LESTER E. DENONN, RALPH B. WINN. New York, Philosophical Library, 1942. Pp. viii, 294.

Introduction to Semantics. By RUDOLPH CARNAP. Cambridge, Mass., Harvard University Press, 1942. Pp. xii, 264.

Science, Philosophy and Religion. Second Symposium. New York, Conference on Science, Philosophy and Religion in their Relation to the Democratic Way of Life, 1942. Pp. xvi, 600.

Experience and the Christian Faith. By HOWARD B. JEFFERSON. Nashville, Abingdon-Cokesbury Press, 1942. Pp. 230.

Proceedings of the American Catholic Philosophical Association, Volume XVII: *Philosophy and Order.* Washington, D.C., The Catholic University of America, 1941. Pp. iv, 204.

Body and Self. One and Inseparable. Also Cosmic Rays and Light and other writings. By PERCY A. CAMPBELL. San Francisco, Lawton R. Kennedy, 1942. Pp. viii, 156. (George Fields, San Francisco.)

NOTES

On account of the present lack of sufficient transportation facilities between the United States and the other American Republics the First Inter-American Congress of Philosophy, which was to have been held at Columbia University in December of this year, has been indefinitely postponed.

The following is a list of articles in current philosophical periodicals:

PHILOSOPHY XVII 66: *Leonard J. Russell,* Ideals and Practice (I); *A. D. Ritchie,* Theories of Immortality; *W. H. Walsh,* The Intelligibility of History; *A. H. B. Allen,* The Nature of Tragedy; *W. H. F. Barnes,* Richard Price: A Neglected 18th Century Moralist; *Helen Wodehouse, A. E. Taylor,* Freedom and Personality Again.

THE JOURNAL OF PHILOSOPHY XXXIX 5: *Everett W. Hall,* Is Philosophy a Science?; *C. J. Ducasse,* Correctness vs. Occurrence of Appraisals—A Reply; *Morris T. Keeton,* On Defining the Term "Fact"; *C. J. Ducasse,* Is a Fact a True Proposition?—A Reply. 6: *D. S. Mackay,* What does Mr. Dewey Mean by an "Indeterminate Situation"?; *M. C. Nahm,* Some Aspects of the Play-Theory of Art. 7: *Paul Weiss,* The Logic of Semantics; *Ernest Nagel,* Operational Analysis as an Instrument for the Critique of Linguistic Signs. 8: *Andrew Ushenko,* The Problem of Semantics; *Albert G. A. Balz* and *Harold A. Larrabee,* Philosophy and the Philosophy of Education.

PHILOSOPHY AND PHENOMENOLOGICAL RESEARCH II 3: Symposium on the Significance of Max Scheler for Philosophy and Social Science: *George N. Shuster,* Introductory Statement; *V. J. McGill,* Scheler's Theory of Sympathy and Love; *Hanna Hafkesbrink,* The Meaning of Objectivism and Realism in Max Scheler's Philosophy of Religion: A Contribution to the Understanding of Max Scheler's Catholic Period; *Howard Becker* and *Helmut Otto Dahlke,* Max Scheler's Sociology of Knowledge; *Alfred Schuetz,* Scheler's Theory of Intersubjectivity and the General Thesis of the Alter Ego; *Richard Hays Williams,* Scheler's Contributions to the Sociology of Affective Action, with Special Attention to the Problem of Shame; *Isabel Stearns,* The Grounds of Knowledge; *Albert E. Avey,* Russell's Quest for Objectivity; *Anne L. Michaelis,* The Conception of Possibility in Meinong's "Gegenstandstheorie"; *Thornton Read,* The Problems of Empirical Metaphysics; *John Wild,* In Reply to Mr. Read.

THE JOURNAL OF SYMBOLIC LOGIC VII 1: *Barkley Rosser,* The Burali-Forti paradox; *Barkley Rosser,* New sets of postulates for combinatory logics; *M. H. A. Newman* and *A. M. Turing,* A formal theorem in Church's theory of types; *Daniel J. Bronstein,* A correction to the sentential calculus of Tarski's Introduction to Logic; *J. C. C. McKinsey,* Seventh meeting of the Association for Symbolic Logic.

SCIENCE AND SOCIETY V 4: *Philip J. Jaffe,* Economic Provincialism and American Far Eastern Policy; *Samuel Bernstein,* Marat, Friend of the People; *Lewis S. Feuer,* Dialectic and Economic Laws; *Francis H. Bartlett,* Marx and Freud; *Vladimir D. Kazakévich,* The Economic Strength of the Soviet Union. VI 1: *Paul M. Sweezy,* The Illusion of the "Managerial Revolution"; *Margaret Schlauch,* Russian People's Wars in 1912 and 1941—Recent Soviet Historiography; *Samuel Putnam,* Brazilian Culture under

Vargas; *D. F. Struik,* On the Sociology of Mathematics, *Emily Grace, M. F. Ashley Montagu, Bernhard F. Stern,* Social Darwinism.

THE ANTIOCH REVIEW II 1: *Carroll D. Alcott,* Why Remember Pearl Harbor?; *Pierre Cot,* France: and Things to Come; *William M. Leiserson,* Labor Relations and the War; *Edwin Berry Burgum,* The Sad Case of Aldous Huxley; *Cyrus Eaton,* The Professor Talks to Himself; *William Victor Strauss,* A War-Time Fiscal Policy; *Lawrence Thompson,* A Background for Modern Poetry; *Carey McWilliams,* California Pastoral; *Vardis Fisher,* A Trivial Excursion in Modesty; *John Sparks,* Civil Liberties in the Present Crisis; *Jacques Lefranc,* French Literature Under the Nazi Heel; *The Editors,* We Note.

THE REVIEW OF POLITICS IV 2: *Wilfred Parsons,* The Mediaeval Theory of the Tyrant; *F. K. Mann,* Structural Changes in the American Economy; *Talcott Parsons,* Max Weber and the Contemporary Political Crisis; *Thomas I. Cook* and *Arnaud B. Leavelle,* Orestes A. Brownson's The American Republic; *Paul Vignaux,* Corporativism in Europe; *William O. Shanahan,* The Literature on War.

THE HIBBERT JOURNAL XL 2: *Maude D. M. Petre,* What Russian can Teach us. Anglo-Russian Alliance, and its Meaning for the Future; *Hamilton Fyfe,* Matthew Arnold and the Fall of France; *Alfred Cobban,* The Triumph of Pessimism; *Ray Knight,* A New and Better World; *John Laird,* Samuel Alexander's Theism; *Herbert L. Stewart,* The Business Morals of the Middle Class—What do they Owe to the Reformation?; *Baron von Oppell,* Beauty in Shakespeare and in Kant; *Stanley Cook,* Religion in Shakespeare and in Kant; Sacrament and Sacrifice: I. *H. H. Rowley,* A Protestant View of the Lord's Supper. II. *Cuthbert Lattey,* A Catholic View; *Louis Arnaud Reid,* Humanism—Bankrupt and Otherwise; *S. H. Mellone,* Survey of Recent Philosophical and Theological Literature.

THE THOMIST IV 2: *Ignatius Smith,* The Militant Christian Virtues; *Thomas Greenwood,* The Characters of the Aristotelian Logic; *Louis A. Ryan,* Charity and the Social Order (Third Installment); *Noël Mailloux,* The Problem of Perception; *Mortimer J. Adler* and *Walter Farrell,* The Theory of Democracy—Part III (continued).

FRANCISCAN STUDIES New Series I 1: *Thomas Plassmann,* Franciscan Studies: A Survey and Introduction; *Anscar Parsons,* Bernardine of Feltre and the *Montes Pietatis; Marion Habig,* The Franciscans in Paraguay; *Philotheus Boehner,* Documents: The *Centiloquium* Attributed to Ockham; *Maurice Grajewski,* Scotistic Bibliography of the Last Decade (1929-1939); Franciscana.

JOURNAL OF THE HISTORY OF IDEAS III 1: *F. J. E. Teggart,* Causation in Historical Events; *Morris R. Cohen,* Causation and its Application to History; *Maurice Mandelbaum,* Causal Analysis in History; *Walter E. Houghton, Jr.,* The English Virtuoso in the 17th Century (I); *Margaret M. Ball,* The Leadership Principle in National Socialism; *Francis R. Johnson,* Thomas Hood's Inaugural Address as First Mathematical Lecturer of London (1588). 2: *Ernst Cassirer,* Giovanni Pico della Mirandola (I); *Lynn White, Jr.,* Christian Myth and Christian History; *Clarence H. Yarrow,* The Forging of Fascist Doctrine; *John Clarke Adams,* Some

Antecedents of the Theory of the Corporative System; *Walter E. Houghton, Jr.*, The English Virtuoso in the Seventh Century (II); *Julius R. Weinberg*, The Fifth Letter of Nicholas of Autrecourt to Bernard of Arezzo.

THE JOURNAL OF RELIGION XXII 2: *Robert L. Calhoun*, Thought and Action in Religious Living; *Gregory Vlastos*, The Religious Foundations of Democracy Fraternity and Equality; *Paul Weiss*, Sources of the Idea of God; *Joshua Trachtenberg*, The Folk Element in Judaism; *B. LeRoy Burkhart*, The Rise of the Christian Priesthood.

THE REVIEW OF RELIGION VI 3: *Henry R. Zimmer*, The Hindu View of World History According to the Purāṇas; *Moses Hadas*, The Religion of Plutarch; *Alban G. Widgery*, Christianity and the Particularities of History; *Abraham Heschel*, An Analysis of Piety.

RELIGION IN THE MAKING II 3: *M. C. Otto*, Religion in Our Time; *John T. McNeill*, The Reformation's Debt to the Renaissance; *Martin Rist*, "Love" as an Ecclesiastical Term in I Clement; *Frederick M. Derwacter*, The Samaritan in the New Testament Tradition; *Elmer T. Clark*, The Psychology of Small Sects; *William H. Bernhardt*, An Analytic Approach to the God-Concept.

THE NEW SCHOLASTICISM XVI 2: *John J. Toohey*, The Term "Being"; *E. G. Salmon*, Philosophy and Science; *Thomas Greenwood*, The Metaphysical Ground of Logical Operations; *Rudolf Allers*, Misinterpretation of Aristotle by Galileo.

THE HARVARD THEOLOGICAL REVIEW XXXV 1: *Campbell Bonner*, A Tarsian Peculiarity (Dio Prus. Or. 33); *Wilfred Lawrence Knox*, The Ending of St. Mark's Gospel; *V. Tscherikower* and *F. M. Heichelheim*, Jewish Religious Influence in the Adler Papyri; *Clyde Kluckholn*, Myths and Rituals: A General Theory; *Martin P. Nilsson*, A Note on the Epitaph of Terentius; *Murray Fowler*, Some Objections to Old Norse Pjazi-Sanskrit Tvaṣṭṛ.

SPECULUM XVII 1: *Richard McKeon*, Rhetoric in the Middle Ages; *S. A. Ives*, Corrigenda and Addenda to the Descriptions of the Plimpton Manuscripts as Recorded in the De Ricci *Census*; *Hilda Buttenwieser*, Popular Authors of the Middle Ages; *Pauline Aiken*, Vincent of Beauvais and Chaucer's *Monk's Tale*; *George Sanderlin*, Usk's *Testament of Love* and St. Anselm; *G. P. Cuttino*, A Memorandum Book of Elias Joneston; *M. N. Crow*, John of Angoulême and His Chaucer Manuscripts; *J. L. La Monte*, The Lords of Le Puiset on the Crusades; *R. V. Rogers*, The Harvard Manuscript of *Les Vieux Tenures*.

PHILOSOPHIC ABSTRACTS II 8, Winter, 1941/42.

THE AUSTRALASIAN JOURNAL OF PSYCHOLOGY AND PHILOSOPHY XIX 3: *Frederick V. Smith*, An Interpretation of the Theory of Gestalt; *J. N. Findlay*, Time—A Treatment of Some Puzzles; *P. H. Partridge*, Some Thoughts on Planning; *John Anderson*, Art and Morality.

PSYCHOLOGICAL REVIEW XLIX 2: *Kurt Koffka*, Wolfgang Köhler; *J. M. Stephens*, Expectancy vs. Effect—Substitution as a General Principle of Reinforcement; *Norman R. F. Maier* and *T. C. Schnierla*, Mechanisms in Conditioning; *Matthew Luckiesh* and *Frank K. Moss*, A Restricted Ex-

tension of Fechner's Law from Sensation to Behavior; *Everett W. Hall,* Some Dangers in the Use of Symbolic Logic in Psychology; *S. S. Sargent,* How Shall We Study Individual Differences?; *Rudolf Ekstein,* The Language of Psychology and Everyday Life; *Claude E. Buxton,* Reminiscence in the Acquisition of Skill; *John P. Seward,* Note on the Externalization of Drive.

JOURNAL OF EXPERIMENTAL PSYCHOLOGY XXX 3: *E. J. Gibson,* Intra-List Generalization as a Factor in Verbal Learning; *T. E. McMullin,* A Study of the Affective Nature of the Interpolated Activity as a Factor in Producing Differing Relative Amounts of Retroactive Inhibition in Recall and Recognition; *N. G. Hanawalt* and *B. E. Post,* Memory Trace for Color; *G. K. Yacorzynski,* Degree of Effort: I. An Investigation of a Concept in the Field of Motivation; *C. W. Telford* and *W. J. Swenson,* Changes in Muscular Tension During Learning; *J. P. Seward,* An Experimental Study of Guthrie's Theory of Reinforcement; *P. V. Marchetti,* Time-Errors in Judgments of Visual Extents; *D. P. Boder* and *I. L. Goldman,* The Significance of Audible Onset as a Cue for Sound Localization. 4: *J. M. Bobbitt,* An Experimental Study of the Phenomenon of Closure as a Threshold Function; *A. W. Melton* and *G. R. Stone,* The Retention of Serial Lists of Adjectives Over Short Time-Intervals with Varying Rates of Presentation; *I. G. Campbell,* A Study of the Fitness of Color Combinations, in Duple and in Triple Rhythm, to Line Designs; *W. J. Brogden,* Non-Alimentary Components in the Food-Reinforcement of Conditioned Forelimb-Flexion in Food-Statiated Dogs; *B. Reynolds,* The Mnemonic Function of Interference; *G. K. Yacorzynski,* Degree of Effort: II. Quality of Work and Time of Completion of Performance Tests; *J. E. Winter,* An Inexpensive, Noiseless Memory Apparatus.

PSYCHOLOGICAL BULLETIN XXXIX 2: *B. von Haller Gilmer,* The Glomus Body as a Receptor of Cutaneous Pressure and Vibration; *Donald E. Super,* The Bernreuter Personality Inventory: A Review of Research. 3: *Milton Metfessel* and *Constance Lovell,* Recent Literature on Individual Correlates of Crime; *Elsie Murray,* "Color Blindness": Current Tests and the Scientific Charting of Cases; *J. B. Stroud,* A Critical Note on Reading; Psychology and the War. 4: *Frank A. Beach,* Central Nervous Mechanisms Involved in the Reproductive Behavior of Vertebrates; *C. M. Louttit,* Psychological Examining in the United States Navy: An Historical Summary; *Lloyd Berg* and *Warner Brown,* Psychology in Western High Schools; *Howard V. Meredith* and *Walter F. Dearborn,* Predicting the Child's Development; Psychology and the War.

JEWISH SOCIAL STUDIES III 4: *Harry Slochower,* Attitudes Towards Heine in German Literary Criticism; *Gerhardt Neumann,* German Jews in Colombia; Facilities of Jewish Hospitals for Specialized Training; *Uriah Z. Engleman,* Demographic Note on Jewish Families in Buffalo. IV 1: *Solomon F. Bloom,* Karl Marx and the Jews; *Moses Moskowitz,* The Jewish Situation in the Protectorate of Bohemia-Moravia; *Mark Wischnitzer,* The Historical Background of the Settlement of Jewish Refugees in Santo Domingo; *Raphael Straus,* The "Jewish Hat" as an Aspect of Social History; *Norman Bentwich,* Jewish Life in British South Africa. IV 2: *Rudolf Glanz,* Jews in Early German-American Literature; *Erich*

Brauer, The Jews of Afghanistan; *Zoza Szajhowski,* The Alliance Israélite Universelle and East-European Jewry in the '60s; *Albert A. Campbell,* Note on the Jewish Community of St. Thomas, U. S. Virgin Islands.

JOURNAL OF SOCIAL PHILOSOPHY AND JURISPRUDENCE VII 3: *C. Reinold Noyes,* Social Philosophers and Social Planning; *Roland L. Warren,* The Place of Values in Social Theory; *Ludwig Mises,* Social Science and Natural Science; *Frederic C. Lane,* The Economic Meaning of War and Protection.

THE MAHA-BODHI XLIX 8: *B. M. Barua,* Message; *Two Latvian Buddhist Priests,* Sri Dharmakirti, The Indian Kant; *P. S. Lakshminarasu,* Our Duties and Rights; *Tan Yun Shan,* World Remedy; *Bhikkhu M. Prajna Shri,* Matanga, The Social Reformer; *Swami Jagadiswarananda,* Bhagvan Buddha; Report of the Maha Bodhi Society of India. 9: *Rabindranath Tagore,* Hymn to Lord Buddha in Original Bengali; Vaisaka Purnima Song; To Gautama Buddha; Lord Buddha the Peaceful; and On the Revival of Buddhism in India and Abroad; *Bhikkhu Dhammapāla,* Some New Translations of the Theragatha; *X,* Ahimsa through Buddhist Eyes; *Bhikkhu Silabhadra,* Is Buddhism a Religion of Pessimism?; *T. Vimalananda,* Truth about Milinda; *Maung Ba,* Anatta—How It May Be Realized; *Vinayariya Bhikkhu M. Prajana Shri,* A Child Marriage Episode on Buddha Days; *Frank R. Mellor,* Our Jumble Sale. 12: *Bhikkhu Silabhadra,* Fa-hien's Indian Travel; *Frank R. Mellor,* Two Nights in the Country; Mrs. Edmund Hewavitarne's Gift to Hospital; *Kalidas Nag,* Buddhist Revival in India.